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Docket Analysis for the Noise Emission Regulations for Motorcycles and Motorcycle Exhaust Systems

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This document presents all comments received from the public regarding the proposed noise emission regulations for motorcycles and motorcycle exhaust systems and the Federal government's responses to each comment. The comments include written submissions received during the 90-day public comment period, and testimony received at the three public hearings. The comments and Agency responses address: health and welfare benefits of the regulation; economic effects of the regulation; noise control technology; enforcement of the regulation; test procedures; Acoustical Assurance Period and Sound Level Degradation Factor; labeling; mopeds; and general comments. The document also presents a statistical breakdown of all comments.

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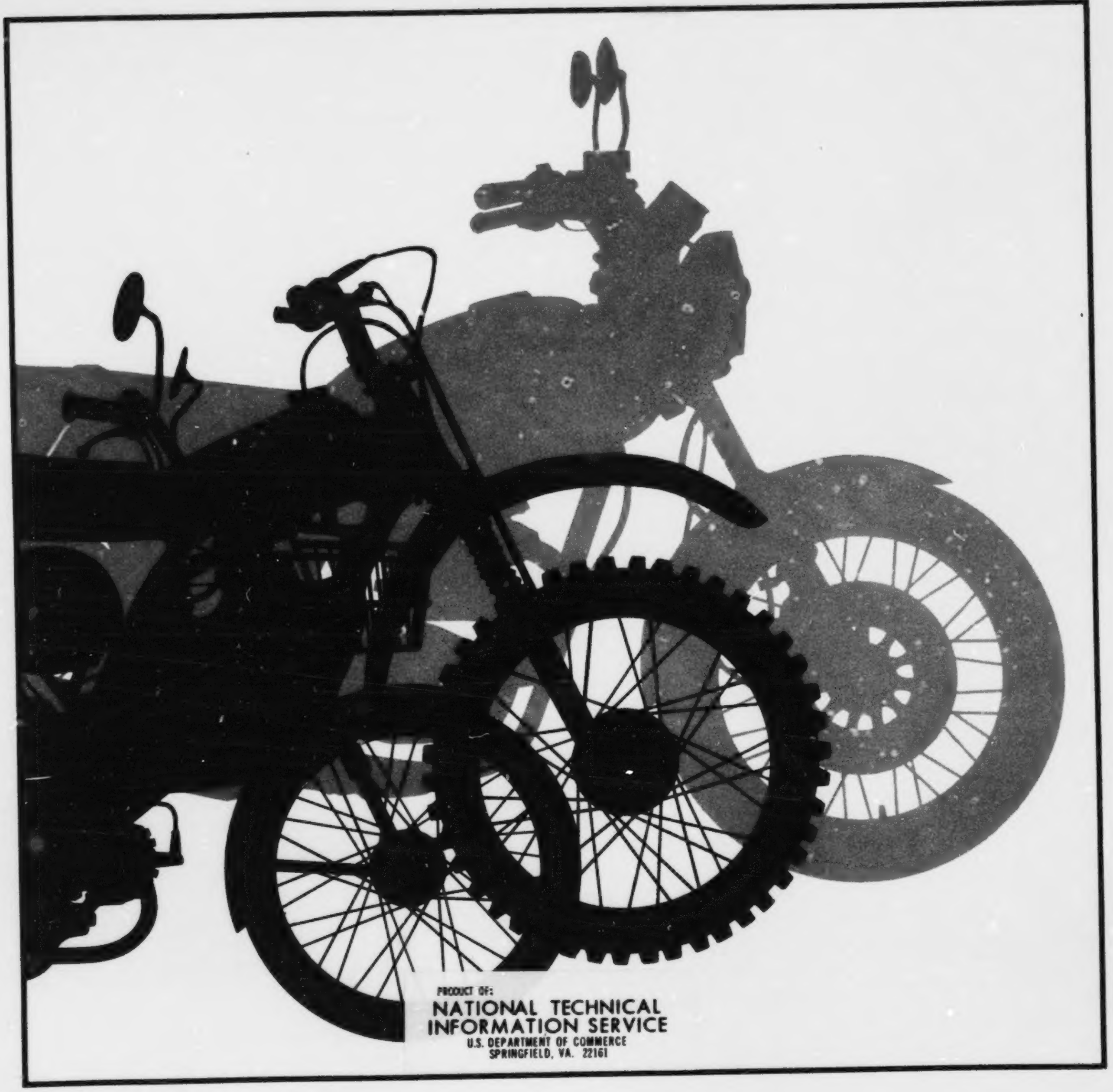

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DOCKET ANALYSIS
FOR THE NOISE EMISSION REGULATIONS
FOR MOTORCYCLES AND MOTORCYCLE EXHAUST SYSTEMS

December 1980

U.S. Environmental Protection Agency
Office of Noise Abatement and Control
Washington, D.C. 20460

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1. HEALTH AND WELFARE

1.1 EXTENT OF IMPACT ON PUBLIC HEALTH AND WELFARE

Issue: Criteria for identifying motorcycles as a major source of noise is questioned, and it is contended that the health and welfare benefits do not justify the regulation.

Comments:

Manufacturers' Comments

Harley-Davidson, Kawasaki and Suzuki expressed concern that EPA has not established valid reasons for implementing the noise emission regulation and has not proven that motorcycles threaten the public's health and welfare. At most, motorcycle noise is viewed as an annoyance.

Harley-Davidson also claims that, at first, EPA acknowledged that new motorcycles operating at the 83 dB level are not loud, and then proceeded to display theoretical calculations which totally ignore this point.

Lastly, Harley-Davidson points out that motorcycles make up only 1.7 percent of the total traffic stream and account for a mere 1.2 percent of total traffic miles. As a result, the U.S. population will not greatly benefit from the proposed rules. Suzuki has stated that the general public is not greatly concerned with off-road motorcycle noise either.

Kawasaki testified that new vehicles are somewhat quieter than the analysis shows, and that EPA's estimation of reduction in noise impacts is overstated.

State and Local Government Comments

The California Office of Noise Control urges EPA to spend more funds on a better assessment of the adverse effect of noise on human well-being.

Orange County, California, stated that because noise is viewed as an annoyance and an inconvenience rather than a matter of public safety, it is difficult to get law enforcement officials to "crack down" on the problem.

Dealer/Distributor Comments

Spokane Suzuki, Honda of Ft. Walton, and Maryland Cycle Supply all contend that other vehicles are noisier than motorcycles.

Motorcycle Interest Group Comments

ABATE of Illinois argues that most motorcycles are used only six months of the year in a limited fashion and can not in any way impact on the general public's health and welfare.

The BMW Motorcycle Owners of America contend that the noise emissions of unmodified motorcycles are "masked by the sound of other vehicles in the traffic stream. Unmodified motorcycles therefore do not contribute in any significant way to total traffic noise."

ABATE of Michigan, Freedom Rider MC, and Cycle World Magazine contend that motorcycles make up a small percentage of the total traffic stream and therefore do not contribute significantly to the noise problem.

Private Citizens Comments

Mr. Bradford Sturtevant stated that the analysis of the single event model is based on a long string of unproven assumptions and calculates absolute impacts with no reference to the significance of the impact relative to other equivalent noise sources.

Biomedical Community Comments

While Ray Lesser, M.D., supported EPA's efforts to reduce noise pollution, Dr. John Fletcher stated in public hearings that there are certain levels of noise which may be only annoying, although the state-of-the-art research indicates that annoyance due to noise might pose other health problems since there are other non-auditory effects of noise. Again, these are more suggested than very strongly proved. There are also scientific studies which rather strongly suggest that noise aggravates existing heart conditions. Because of the potential damage from non-auditory effects coupled with the very heavily and well-documented auditory effects, Dr. Fletcher believes that it would be foolish for EPA to ignore them. Interruption in sleep is considered to be rather significant not only from a health standpoint but from a physical well-being, quality-of-life standpoint. Dr. Fletcher can see no adverse effect of lowering the standards.

Mr. Karl S. Pearsons, a manager of a psychoacoustics research department testified on the adverse effects of noise including hearing loss and damage, sleep and speech interference, and other effects such as on the cardiovascular system. Annoyance was also mentioned as an adverse effect by Mr. Pearsons.

Public Interest Group Comments

Spokesmen for the National Retired Teachers' Association and the American Association of Retired Persons expressed concern over noise and the inability of the elderly to escape it. These two organizations indicated that motorcycle noise is a major part of the noise problem.

Response:

While 83 dB is not as loud as many motorcycles manufactured in the past nor as loud as most modified motorcycles, the 83 dB noise level is considered by EPA to be very loud for a surface transportation product. Trucks are currently regulated below this level and the proposed regulations for buses are also less than 83 dB.

The Regulatory Analysis for the Final Motorcycle Noise Emission Regulation shows in detail EPA's estimates of the health and welfare benefits of the regulation, and illustrates the basis upon which EPA made the decision to regulate motorcycles. The data contained in the Regulatory Analysis represent EPA's best estimate of motorcycle noise impact and the nation-wide traffic noise situation. EPA's health and welfare analysis was meant to be a conservative estimate of the true dimensions of the motorcycle noise problem. The various assumptions made in the analysis were consistently underestimated so that any error would not overestimate the true problem. It is quite possible that the impact from motorcycle generated noise is greater than the health and welfare analysis assumes. Nevertheless, it is EPA's judgment that this regulation limiting noise emissions from motorcycles does afford a sufficient degree of protection to public health and welfare, and further that the estimated benefits to be accrued fully justify this regulation of motorcycle noise.

EPA's definition of health, which is contained in the Regulatory Analysis, is broad enough to include elements other than simply physical harm. This definition is commonly accepted among the scientific community. Health and welfare are not separate entities but are considered as a whole. Thus, EPA has not simply calculated health benefits seperately from welfare benefits, but has calculated health and welfare benefits. Thus, the inference that motorcycle noise is viewed only as an annoyance is an oversimplification. Noise may effect hearing, interfere with sleep, and cause basic physiological stress. People's verbalized responses expressing the dissatisfaction they feel culminating from all these effects may be termed "annoyance." The reaction of annoyance is a symptom of the overall adverse effects of noise, and thus annoyance does constitute or indicate a health problem. The health and welfare impact of noise is therefore related to annoyance. Public annoyance is the basis of many noise abatement programs and was the motivator of legislative action to control noise throughout the country. To those who are impacted daily by motorcycle noise, annoyance is a real problem. EPA is responsible for protecting the public's health and welfare when it is disrupted by noise. Annoyance is a crucial component that needs to be controlled if EPA is to uphold its responsibilities. Annoyance does constitute a danger to the public's health and welfare, and EPA is proceeding to regulate as required by the Noise Control Act.

Limiting the noise emissions from motorcycles admittedly will not eliminate all the noise pollution in our environment. This is not the intent of this regulation. Rather, limiting the noise emissions of motorcycles will contribute to a quieter environment in the future. Motorcycle noise standards are but one set of regulations promulgated or planned by EPA to control noise. Trucks, buses, wheel and crawler tractors, portable air compressors, truck mounted solid waste compactors, and pavement breakers and rock drills as well as motorcycles, have been or will be regulated for noise control. The total effect of these regulations will benefit the public's health and welfare.

Admittedly, motorcycles comprise a small percentage of the total traffic stream. Also motorcycles are used only part of the year in many parts of the country. However, it does not follow that motorcycles are not a major source of noise. Relative to other transportation sources, motorcycles are a significant contributor, especially in residential areas, where heavy vehicles are not present. Further, off-road motorcycles used in urban areas contribute to noise pollution outside the traffic stream. Therefore, the percentage of the U. S. population exposed to motorcycle noise is greater than it would be if motorcycles were confined to the streets.

This regulation will prevent the production of loud motorcycles and help prevent owner modifications which will increase noise. The projected benefits identified in the health and welfare analysis are expected to be realized.

1.2 ACCURACY AND SUFFICIENCY OF HEALTH AND WELFARE STATISTICAL DATA

Issue: Is the statistical data used in the health and welfare analysis accurate and sufficient, and are the assumptions made in the health and welfare analysis reasonable?

Comments:

Manufacturers' Comments

Harley-Davidson felt that the analysis as it stands, "provides no link from the theoretical analysis to objective measures of perceived motorcycle noise... EPA's health and welfare analysis has no basis in fact, rests on a substantially inadequate data base and if adopted will not withstand judicial scrutiny... The complete absence of any experimental verification of the model seriously weakens its usefulness." Further, estimates in "Noise on Wheels" for future motorcycles on the road are exaggerated.

Harley-Davidson also contested several assumptions made by EPA. To Harley-Davidson, the assumptions on acceleration time used in calculating the Sound Exposure Level (SEL) are inconsistent. The SEL should be recalculated with consistent peak noise levels and acceleration time. The analysis, according to Harley-Davidson, overestimates the SEL value by at least 3 dB. Furthermore, the number of accelerations per mile was also questioned by Harley-Davidson in that motorcycle acceleration in traffic is restrained by lead vehicles about 98 percent of the time since they only make up 1.7 percent of the traffic stream.

Lastly, Harley-Davidson views the estimate for sleep interruption as too high because motorcycle usage is reduced after sunset for safety reasons.

Suzuki states that EPA's projections of benefits are based on "two totally unproven assumptions." First, that the exhaust system regulation will reduce the number of modified systems by one-half and second, that state and local enforcement efforts will be effective. Furthermore, according to Suzuki, the projected benefit from the exhaust system regulation is completely untested at this time.

Lastly, Kawasaki's estimates that the number of modified motorcyles is greater than the 12 percent listed by EPA in the background document.

Motorcycle Interest Group Comments

Motorcycle Product News challenges the validity of the data used in the health and welfare analysis. To them, the supporting documentation no longer reflects the real world. Most of the documentation is based on studies conducted prior to 1975. Motorcycle Product News also questions the use of a 15-year old British study to estimate public attitudes towards motorcycles.

Road Rider Magazine took issue with data in the background document dealing with the number of motorcycle miles occurring on highways and freeways. Road Rider Magazine suggests that EPA perform a more sophisticated analysis of the different modes of operation of motorcycles (touring, commuting, pleasure riding, etc.) and the percentage of total miles in each mode. It should then be determined which modes of operation are most likely to annoy people.

Private Citizen Comments

Mr. John Viggers would "like to point out that it seems from casual observation that the noise impacts referenced are based on a 'fleet' of 1975 model year motorcycles. The distribution of motorcycle sizes and engine types (2 or 4 stroke) are based on averages. The noise impacts of this fleet are then used as the basis for further noise impact calculations. It would seem to Mr. Viggers that because of the EPA's own air pollution regulations in effect at the present time that the 1975 fleet is not representative of a 1982 fleet. Three major manufacturers, Yamaha, Suzuki, and Kawasaki no longer produce the large number of 2-stroke motorcycles that in 1975 were the mainstay of their business. This is due to the air pollution regulations and possibly other causes and should result in a very small population of 2-stroke motorcycles in the 1980's. Because of this certain change in the population distribution of motorcycles with its resultant change in noise impacts, how valid are the results of noise impact analysis?"

Response:

In an effort to update and revise the Regulatory Analysis, EPA has modified the health and welfare model to more accurately reflect how noise levels in the community will change as a result of this regulation. The statistical data for the revised health and welfare model (now called the National Roadway Traffic Model) uses the most current data available, including information with regard to the current motorcycle population and projected sales of new motorcycles, based on Department of Transportation studies from 1976 and 1977. The new model provides improved estimates of vehicle operation and noise emissions, and provides a basis for accurately analyzing the health and welfare benefits to be derived from regulation. The data base used by the Model is described in detail in the EPA Draft Report, National Roadway Traffic Noise Exposure Model. The basic simulation of the Model allocates national average daily traffic over 3.6 million miles of U.S. roadways. Traffic is allocated according to mode of operation, roadway types, and population characteristics. Further, for single event analyses the model differentiates between daytime and nighttime traffic and more explicitly defines the population by types of activity.

The model relates population distribution, roadway configuration, and vehicle characteristics. The roadway-use data incorporate the information from several previous studies related to national exposure to traffic noise including: vehicle noise emissions, vehicle operational characteristics, roadway and traffic flow descriptions, population and population density distributions, traffic noise models, noise propagation, and national noise exposure models. A separate health and welfare analysis is also performed for motorcycles not used on roadways.

The model compares rather well with previous national studies used to verify highway noise and uses similar assumptions as other noise models. EPA is ready to use any modeling tool for its analysis when shown its superiority.

The analysis recognizes that populations, roadway networks and traffic conditions on the nation's roadways are not static quantities. Population size, roadway characteristics, and traffic conditions vary from year to year. The new health and welfare model recognizes these variations in estimating national noise exposure in future years.

The model does not rely in any way on surveys of attitudes towards the noise levels of separate classes of motor vehicles. Whether it is a motorcycle or a truck, the impact is calculated the same way. Although there may be some finite differences in response to different categories of motor vehicle, the health and welfare analysis impact projections that one presented rely on criteria recommended for general impact analysis, consistent with current practice.

The Agency does not view its estimate of sleep interruption as unrealistic. The estimate was developed from the estimated fractional usage of motor vehicles at night. The Agency has no knowledge of any data to indicate that motorcycle usage falls off more rapidly than other vehicles (i.e., automobiles) usage at night.

As clearly delineated in the Regulatory Analysis, EPA estimates the exhaust systems regulation will contribute to a noticeable decrease in motorcycle noise. EPA is confident that manufacturers will comply with these regulations and that the incidence of modifying motorcycles will decrease significantly. However, EPA recognizes that Federal regulations alone will not completely solve the problem. Aggressive state and local enforcement is also needed and even then some tampering is still expected to take place. The assumptions used in the health and welfare analysis recognized this by estimating 12 percent of motorcycles to be modified without regulation, 7 percent with Federal regulation only, and 3 percent to be modified with both Federal regulation and active state and local enforcement.

With regard to Harley-Davidson's comments, calculations of sound exposure levels are not based on acceleration time but rather on the period of time an individual is exposed to vehicle pass-by. (For more details see Chapter 5 of the Regulatory Analysis.) The new model was expanded to consider the cruise and deceleration mode as well as the acceleration mode. The new model also considers the fact that the average noise level during an acceleration is several decibels less than the peak noise level reached at the shift point.

Furthermore, as indicated by Harley-Davidson, EPA's February, 1977 publication of "Noise on Wheels" admittedly contained some incorrect information on motorcycle noise levels. "Noise on Wheels" was not properly reviewed prior to its publication and was immediately withdrawn when the inaccuracies were discovered. None of the data included in this pamphlet were used in the health and welfare analysis.

Finally, EPA's estimate that 12 percent of motorcycles are modified, which was used to compute the impact on the public's health and welfare, was taken from a national survey of motorcycle owners conducted by Gallup Organization, Inc. for the Motorcycle Industry Council.

1.3 IMPACT OF MOTORCYCLE NOISE REFLECTS PREJUDICES

Issue: Are motorcycle noise impacts exaggerated since most people are biased against motorcycles?

Comments:

Manufacturers' Comments

Harley-Davidson and Suzuki expressed concern that because motorcycles evoke negative emotional responses, motorcycle noise levels are exaggerated. People may be justly annoyed at modified motorcycles, but new motorcycles are quiet.

MAICO and Harley-Davidson pointed out that noise impacts are subjective and affect individuals differently. The assumption that all people are annoyed by noise diverts attention from the more obvious manifestations of motorcycle irritation.

Motorcycle Interest Group Comments

The BMW Motorcycle Owners of America said EPA's 'single-event noise impact' was invalid since EPA attempts to measure impact in terms of subjective annoyance factors which measures anti-motorcycle prejudices rather than actual motorcycle noise impacts.

Response:

Some people are undoubtedly annoyed by motorcycle noise for reasons which have little to do with the noise emitting characteristics of the vehicle. Negative views of motorcycles may trigger greater sensitivity to motorcycle noise. This does not negate legitimate concerns regarding motorcycle noise although part of the negative response may be an outlet for more general adverse reactions to motorcycles or their operators. The assessment of benefits from reducing motorcycle noise was undertaken from the standpoint of the motorcycle as only one contributor to the overall traffic noise problem. Thus individual prejudices are not reflected in the analysis. To the extent that any of the prejudices are aggravated by the presence of noise, additional benefits will occur by lessening the intensity and detectability of the problem. These additional benefits have not been accounted for in the health and welfare analysis, and thus overall benefits have most likely been underestimated.

Further, attitudes are not the only variable considered in the health and welfare analysis. The analysis should not be labeled invalid because some anti-motorcycle sentiment exists that is not taken directly into account within the analysis.

1.4 MAGNITUDE OF IMPACT ON PUBLIC HEALTH AND WELFARE

Issue: Does the health and welfare analysis accurately and fully determine the noise impact of motorcycles?

Comments:

Manufacturers' Comments

Harley-Davidson stated that there was no justification for EPA's failure to measure the impact of legal motorcycles at different regulatory levels on the public.

Biomedical Community Comments

Dr. John Fletcher confirmed in the public hearings that motorcycle noise is "rather unique because of its temporal pattern and its spectral characteristics (and) because of the transient nature of motorcycle pass-by noise, it poses a very significant problem in quantifying and accurately predicting response."

Mr. John M. Gray, MD, added that motorcycle noise pollution is extremely irritating and anxiety-provoking. Research in experimental psychology has proven without a doubt that constant or recurrent loud noises can aggravate many neuroses. EPA's assumptions made in the health and welfare analyses of the adverse health affects of noise are endorsed.

Motorcycle Interest Group Comments

ABATE of Illinois, ABATE of Maryland, and the Motorcycling Doctor's Association posed questions concerning the actual hearing loss estimated by EPA and would like EPA to provide valid data which indicate hearing loss.

Private Citizen Comments

Mr. Bradford Sturtevant would like to see the noise impact on the motorcycle rider more accurately analyzed.

Response:

The health and welfare analysis evaluated several regulatory options for street motorcycles. These options varied by levels to which motorcycles would eventually be regulated. The number of intermediate levels prior to the most stringent level and the length of lead time for each level were considered.

As mentioned previously, (see Issue 1.4), the model only evaluates the impacts based on the measured noise levels of motorcycles. Evaluation based on other noise characteristics would be difficult, if not impossible to correctly quantify at this time.

In regard to the impact of motorcycle noise on the hearing capabilities of the operator or passengers, it should be noted that noise levels at the position of the operator's or passengers' ear would be reduced as a result of source noise reduction, and thus some further reduction in impact would be expected. However, because it is very difficult to predict or measure the noise levels incurred by riders, due to such factors as wind-induced turbulence and the acoustic effect of safety helmets, we deleted from the final analysis any assessment of the benefits to be experienced by either operators or passengers.

1.5 IN-USE NOISE LEVELS

Issue: Do the noise levels measured in the acceleration test represent actual in-use motorcycle noise levels?

Comments:

Manufacturers' Comments

According to Harley-Davidson, motorcycles realistically operate well below the maximum noise levels and the time-averaged noise level of unmodified motorcycles is substantially less than 83 dB. Unmodified motorcycles under normal operations would have noise levels of 71 to 77 dB, which are comparable to passenger cars. Further, 60 percent of independent noise studies indicate that motorcycle noise is below 75 dB. EPA is using erroneous logic to establish the extent of the public's exposure to motorcycle noise.

Trade Association Comments

The MIC contended that "...there is no relationship between the noise propagation characteristics, or use patterns, in the off-road environment, and the acceleration test procedure selected by EPA... Using the acceleration test for an off-road motorcycle...is not an equitable way to judge noise levels in the off-road environment. [EPA is] measuring the noise emissions from a motorcycle that will be used in vegetated areas, in soft dirt, in hilly areas, and so forth. Yet, [EPA is] measuring that noise on a level concrete surface that would reflect more noise than actually incurred at the place those motorcycles are used."

Dealer/Distributor Comments

Since speed limits average 25 to 35 mph in residential areas, Cycle Sport Unlimited does not believe the full throttle pass-by test accurately reflects motorcycle use in residential areas.

Motorcycle Interest Group Comments

Road Rider Magazine and the New England Trail Riders' Association suggested that EPA undertake a more sophisticated study which would result in a more accurate and representative means of using the acceleration test for motorcycle noise testing.

The BMW Motorcycle Owners of America strongly disagree with EPA's methods of determining the nature and scope of motorcycle noise emissions and their impacts. There are also problems in identifying the noise generating mechanisms on motorcycles.

Response:

A recent study conducted by EPA indicated that motorcycle noise is much greater than the 75 dB suggested by Harley-Davidson. The study measured several different makes and models of motorcycles under varying conditions. The riders were unaware that the observations were being made,and the measured vehicles were unimpeded by other traffic. The vehicle acclerations were measured from standstill positions Urban commuting and urban recreational traffic situations were included.

Without a doubt, motorcycles in normal operations are not as loud as the noise of motorcycles under maximum acceleration. The health and welfare model takes this into consideration and analyzes motorcycles according to four operating modes: normal acceleration, deceleration, cruise, and idle. Noise emissions are examined for these four operating modes for modified and unmodified motorcycles.

The test procedure used for both off-road and street motorcycles is representative of the different modes of operation and their noise emissions. The measurements derived from the testing can be extrapolated to reflect the noise level for any type of operation and environment. Utilizing pavement for the testing insures reliability and consistency and is therefore preferred over testing in off-road conditions.

A complete description of the new health and welfare model as well as the new testing procedure is provided in the revised Regulatory Analysis.

2. ECONOMICS

2.1 EVALUATION OF BENEFITS AND COSTS

Issue: Are the costs of the regulatory levels for motorcycles justified by the projected benefits?

Comments:

Manufacturer's Comments

The comments of the manufacturers of street motorcycles implied support of the 83 dB level as the most acceptable of the regulatory options. Harley-Davidson, Suzuki and Yamaha questioned the cost effectiveness of the 80 dB standard inferring that costs to attain that level far outweighed the incremental benefits of quieting. Suzuki contends that a reduction to the 80 dB level from the 83 dB level would only increase benefits by 7 to 20 percent but would increase costs by 300 percent.

The 78 dB level raised substantial concern within the industry. Harley-Davidson, Honda, and Suzuki all questioned the need and cost-effectiveness of going to 78 dB. Harley-Davidson stated that it does not know how the 78 dB standard could be reached and therefore could not estimate the costs or marketing impacts until prototype hardware could be developed. Honda feels that the 78 dB level should be carefully studied from the cost-effectiveness point of view. It stated that implementation of a 78 dB rule would prompt cost increases of approximately 10 percent. Suzuki stated that the 78 dB level is completely unreasonable and cannot be justified until all other transportation noise sources are made much quieter. It recited EPA's own benefit and cost projections as evidence against the 78 dB level.

State and Local Governments

The California Highway Patrol suggested that the 78 dB level be eliminated or that the effective date be omitted since it does not appear to be cost-effective. However, representatives of local governments in such states as Oregon, California, Minnesota and Florida criticized the 83 dB level as failing to provide protection from or amelioration of excessive motorcycle noise.

Trade Association Comments

The Motorcycle Industry Council (MIC) and the Motorcycle Trade Association (MTA) support the 83 dB regulatory level. This support is echoed through the testimony of other trade associations and motorcycle interest groups.

The MTA stated that the imposition of a more severe regulatory level could cost U.S. industry and the economy over one billion dollars. This includes the loss of jobs, a loss of business for manufacturers, suppliers, dealers and sub-assembly suppliers, and sales' losses. MTA pointed out that other indirect costs to the American economy were absent from EPA's analyses such as unemployment payments. The Motorcycle Industry Council views regulatory options more stringent than 83 dB as adding significantly to costs without achieving significant environmental benefits.

Council on Wage and Price Stability

The 83 dB regulatory option was identified by the Council on Wage and Price Stability (CWPS) as the level of regulation with the highest net benefits. Therefore, CWPS concluded, it is a misallocation of society's resources to regulate to noise levels of 80 dB or 78 dB since net benefits to society would be smaller than at the 83 dB level.

Motorcycle Interest Groups Comments

The New England Trail Riders' Association indicated that the benefits will far outweigh the costs with the proposed noise emission rules. Its members will be able to devote "the time, money, and effort now being spent on noise control activities to other programs such as trail planning and rider education."

Other motorcycle interest groups, however, believe that the costs do outweigh the benefits. Among them: ABATE of Illinois, AMA, AMA Great Plains District 33, Harrisonburg MC, Inc., Jennings County MC, Sidewinders MC Earth, U.S. Norton Owners' Association, Twin Shores MC, Freedom Riders MC, *Cycle World Magazine*, ABATE of Indiana, and Jersey Motorcycle Association, Inc.

Response:

In determining the cost-effectiveness of a regulation, EPA compares the costs and benefits of each level of the noise emission standards in the regulation. The costs are estimated in dollars while the benefits are measured using metrics reflecting the impact on the public's health and welfare. If the agency finds that the projected benefits justify the costs, the regulation is considered to be cost-effective.

At the 83 dB regulatory level, the costs for motorcycle noise control would be minimal. This is due to the fact that nearly all new street motorcycles currently sold in the U.S. have noise levels below the 83 dB level. The technology to quiet motorcycles to this level has already been developed and is available. Also, newly manufactured models with noise levels higher than 83 dB are already illegal in several states.

Benefits associated with the 83 dB standard are primarily the result of restricting consumer modification of the original exhaust system. Consumer modification takes two forms: (1) replacement of the original equipment with a louder exhaust system; or (2) alteration of the muffler to make it louder. These benefits are realized because the regulation requires that replacement exhaust systems must not cause the motorcycles for which they are designed to exceed the applicable noise standard. Since substantial benefits are derived with minimal cost penalties, EPA has determined that this standard is cost-effective.

For the 80 dB level, the motorcycle manufacturers must begin to make changes to a significant percentage of their models. The marginal costs and benefits of moving from the 83 dB standard are entirely associated with these initial design changes. EPA analyses and public testimony have shown that all manufacturers can meet the 80 dB level; some manufacturers with only minor model changes. Further reduction (i.e., to 78 dB) which of course must be obtained through more difficult design changes is naturally more costly. Thus, the highest benefit to cost ratio is almost always at the least stringent standard. However, choosing the least stringent standard does not necessarily create an adequately quiet environment.

The cost-benefit analysis performed by the Council on Wage and Price Stability concluded that the benefits exceeded the costs for the 83 dB and 80 dB regulatory levels, but were less than the costs for the 78 dB regulatory option. The 83 dB level was shown to have the greatest net benefit and was assessed as the "most proper" regulatory alternative.

EPA disagrees with the CWPS's assessment. A review by EPA of alternative costing methodologies to monetize the benefits of noise regulation led to the conclusion that all present major analytical problems. EPA, therefore, does not monetize benefits in its in-house analyses, but instead scrutinizes the cost-effectiveness of regulations. EPA believes that the dollar value of benefits may have been grossly underestimated in the CWPS analysis and, in addition, points out that the 83 dB level is essentially a status quo level.

It should also be pointed out that any Federal standards regulating motorcycle noise levels may in themselves help to optimize the cost efficiency of motorcycle manufacturing. Proliferation of state regulation can force a division of the manufacturing process to produce separate variations of the product that conform with each separate state regulation. Setting one uniform nation-wide standard avoids the increased costs of such a divided manufacturing process.

2.2 INFLATIONARY IMPACT OF REGULATION

Issue: Is the proposed regulation inflationary since it can potentially add to the costs of motorcycles and aftermarket products?

Comments:

Manufacturers' Comments

Honda estimated price increases of 8 to 9 percent to reach the 78 dB level. Suzuki estimated price increases of 5 to 10 percent with an average cost increase of 7 percent at the 80 dB level. Yamaha predicted cost increases of approximately 10 percent would be required for compliance at the 80 dB level. The greatest costs will come with the large displacement vehicles and, in the case of Yamaha its dual-purpose line.

Harley-Davidson also expects significant price increases of 10 to 15 percent to meet the 80 dB level. Kawasaki also stated price increases could be expected because of the longterm vehicle noise levels.

Yamaha indicated that since motorcycles are predominantly leisure and luxury items, demand would decrease as prices increased.

Aftermarket Manufacturers' Comments

Kendrick Engineering stated that the price of their product will increase anywhere from 50 to 70 percent during the first year of rulemaking. Kendrick Engineering, and Gemini Tube Fabrications listed those costs which would increase consumer prices, such as the costs of testing, labeling, reporting, R&D, certification plus the decline in product demand. Jardine Headers, and Action Exhaust System warned of inflationary impacts associated with the noise emission regulation.

Dealer/Distributor Comments

The following dealer/distributors indicated that the motorcycle noise regulations are inflationary and will hurt the economy.

Kawasaki Midwest
Honda of Fort Walton
West Valley Cycle Supply
Kelly Bros. Cycle Parts
Performance Sales Assoc.
Harley-Davidson of Valdosta
LeBord & Underwood, Inc.
Kelleys Cycle Shop
Fay Myers Honda
Sarbus Yamaha, Inc.
Harley-Davidson Sales, Inc.
Regency Kawasaki
C&E Suzuki Sales
Texas Motorcycle Dealers' Assoc.
Maryland Cycle Supply
Ohio Motorcycle Dealers' Assoc.
TRI-ONDA
Lewiston Cycle & Marine
Yamaha-Denver
Honda of Ocala
Ace Cycle Supply
Popoli's Honda
Honda West
Gary Surdye-Yamaha, Inc.
Cycle Sport Unlimited
Rich Budelier Company
Action Kawasaki, Inc.
Wisconsin Motorcycle Dealers' Association

Canton Cycles
Honda of Terre Haute
Krouse Sport City
J&R Cycle Service, Inc.
The Cycle Company
Colbock Harley-Davidson Sales
Richard Landgren, Inc.
Joan's Sales
Penn. Motorcycle Dealer' Assoc.
Dizzy Daves Suzuki
Cleary Motorcycle Co., Inc.
Maryland Motorcycle Dealers' Assoc.
Boston Cycles
Idaho Motorcycle Dealers' Assoc.
All Seasons Sport Centre
A&W Cycle Center
Yamaha Cycle Center, Inc.
Carl's Cycle Sales
"KK" Motorcycle Supply
Omaha Kawasaki
Buzz Chaney Motorcycles
Uhl's Idaho Bike Imports
Boise Harley-Davidson Sales & Service
Tramontin Harley-Davidson, Inc.
Gem State Honda
Sport Center, Inc.
Athens Sport Cycle Inc.

Response:

Inflation:

EPA' position is that the proposed motorcycle noise regulations are not inflationary. Using the economic definition of inflation, inflation results when a product's cost/price increases but the product remains the same. The proposed regulation, while resulting in increased costs, will also result in essentially a different product whose greater quiet will benefit the public health and welfare in measures greater than the associated dollar costs. Therefore the regulation is not considered truly inflationary.

2.3 ECONOMIC IMPACT ON MOTORCYCLE MANUFACTURERS

Issue: Is the economic impact greater on some motorcycle manufacturers than on others?

Comments:

Manufacturers' Comments

Harley-Davidson, MAICO and Triumph all contend that the regulations will seriously restrict their sales and possibly remove them from the market. MAICO, for instance, stated it may be limited to manufacturing only moto-cross machines. Triumph would be faced with considerable hardship if EPA legislates Triumph's existing design out of the market.

Aftermarket Manufacturers' Comments

RC Engineering contends that if the 83 dB level is lowered any further, the American built motorcycle will disappear from the primary market as well as the American aftermarket.

Motorcycle Interest Group Comments

The Laverda Owners Club reports that the Italian motorcycle industry will decide to abandon the U. S. market. Concern regarding the economic impact was expressed for Harley-Davidson by ABATE of Georgia, ABATE of Illinois, AMA Florida District A, Freedom Riders MC, the League of Women Motorcyclists, and Motorcycle Product News.

Road Rider Magazine contends that the question of Harley-Davidson's ability to compete with Japanese manufacturers, given their added costs prompted by regulatory compliance, is not adequately addressed and should be considered further.

Dealer/Distributor Comments

Harley-Davidson of Valdosta, Wisconsin Motorcycle Dealer Association, European Motorcycles, Cleary Motorcycle Co., Inc., Dudley Perkins Co., and Phillip Petersen, a Harley-Davidson dealer, all expressed concern for the continued existence of Harley-Davidson, and thus their own continued existence, if noise proposals are promulgated.

Response:

Some manufacturers have invested considerably more time and resources into noise technology than others. Notably, the Japanese manufacturers have devoted substantial resources toward creating a quieter motorcycle. Other manufacturers have devoted little resources to quieting their products. Therefore, to meet the proposed levels will require greater levels of effort for some manufacturers than others. The economic impact on manufacturers within the industry will, as a result, be different.

A net reduction in motorcycle demand is expected as a result of the noise standards. Forecasting based on historical price-demand relationships indicates that the demand for street and off-road motorcycles combined would be about 2.1 percent below expected demand in the absence of noise regulations. It should be noted however, that this demand forecast would have resulted even in the absence of these Federal rules because of the State motorcycle noise laws planned to take effect. Significant shifts in historic market shares due to Federal noise standards, however, are not expected to occur among the major Japanese motorcycle manufacturers. Their profitability is likewise not expected to be impacted to any large extent since cost increases due to noise control are expected to be passed on to consumers. Although higher retail prices will result in some lost sales, total industry sales in terms of both units and dollars are projected to significantly expand in the next decade.

For AMF/Harley-Davidson to achieve an 80 dB standard, major redesigning of their current large engine types incorporating current engine quieting techniques would be necessary. One attraction of Harley-Davidson motorcycles is a uniquely identifiable exhaust tone that must dominate other subsources to be heard. Engine redesign to meet an 80 dB standard could change tonal characteristics and cause performance penalties that may reduce the demand for Harley-Davidson motorcycles. At a 78 dB level, the economic impact on AMF/Harley-Davidson, the principal domestic manufacturer, would have been primarily manifested in terms of the ability of the firm to manufacture large displacement motorcycles which would conform to EPA standards. Harley-Davidson does not consider compliance with a 78 dB regulatory level achievable with modification to current engine designs. Complete redesigns, in addition to major exhaust and intake treatment, would likely have been necessary for Harley-Davidson to meet a 78 dB level.

AMF/Harley-Davidson motorcycles occupy a unique position in the U.S. motorcycle market and have a devoted following and are expected to be relatively insensitive to small price changes. Consequently, if engine designs acceptable to the consumer can be developed which meet the standards, the firm would be expected to be able to sell the new designs at little sacrifice in profitability.

The other North American manufacturer of street motorcycles is Canada's Bombardier, Ltd., which manufactures high performance dual purpose motorcycles based on off-road and competition models. The remaining street motorcycle manufacturers predominantly are European firms which export large displacement models on a limited scale to the United States, although several export a sizable portion of their production to this country. Most of these firms are considered capable of producing motorcycles at an 80 dB regulatory level. Bombardier and some of the European Manufacturers may or may not have been able to continue exporting street motorcycles to the United States if a 78 dB standard took effect.

Although AMF/Harley-Davidson and several of the other smaller manufacturers are capable of designing motorcycles that will comply with the standards, they argued, during the public comment period, that the proposed lead time would make it extremely difficult or impossible for them to produce motorcycles that would be readily available to the public and yet meet the noise standards. The Agency carefully evaluated these comments and in part extended the effective dates in the final rule to allow these manufacturers more lead time to introduce new motorcycles in parallel with existing products.

Japanese manufacturers of off-road motorcycles are not expected to experience serious technical difficulty producing off-road motorcycles which comply with the noise standards since the quieting technology is well understood. Overcoming weight and horsepower penalties to produce high performance motorcycles, however, will be a challenge. The smaller predominantly European manufacturers, which often rely on superior performance for marketing advantages, are expected to experience difficulty in maintaining their present market positions at these regulatory levels, due to the considerable impact to the performance of current models. An 82 dB regulatory level for large off-road motorcycles is considered to be technically achievable for almost all current manufacturers without requiring conversion to four-stroke engines. However, the performance and cost impacts of this level could make it unprofitable for some of the smaller firms to remain in the U.S. market.

Moped-type street motorcycles will be required to meet a 70 dB standard. No design changes will be required because all mopeds tested by the Agency which are being sold in the U.S. easily comply with that standard. The costs of compliance with this level for these vehicles will primarily be the administrative costs of certification testing, record keeping, and labeling, which are expected to be minimal.

2.4 ECONOMIC IMPACT ON FOREIGN MOTORCYCLE MANUFACTURERS AND U.S. BALANCE OF TRADE

Issues: 1. Does the proposed regulation favor foreign manufacturers?

2. Does the proposed regulation impact negatively on America's balance of trade?

Comments:

Aftermarket Manufacturers' Comments

Florida Cycle Supply, and Action Exhaust Systems claim the regulations favor Japanese manufacturers. RC Engineering expressed concern that unnecessary Federal regulations will decrease the American aftermarket which currently equals the OEM in gross sales per year and will add to the imbalance of payment problem.

State and Local Government Comments

Mr. Ferris Lucas, Executive Director of the National Sheriff's Association, expressed concern over the adverse impact on domestic firms and the Nation's balance of payments deficit implied by the adoption of noise proposal.

Motorcycle Interest Group Comments

According to ABATE of Georgia, EPA is supporting foreign imports by setting standards Harley-Davidson cannot meet. Motorcycle Product News, Gulf Coast Sandblasters, Inc., ABATE of California, the League of Women Motorcyclists, and the American Motorcycle Association Florida District A, all stated that more control of the motorcycle market would go to Japanese manufacturers. BMW Motorcycle Owners of America concurred with this view.

Gulf Coast Sandblasters also contended that more stringent motorcycle regulations will decrease the number of fuel efficient motorcycles on the road, thereby increasing America's dependence on petroleum imports and adversely affecting the nation's balance of payments.

The Pennsylvania Trail Riders' Association also expressed concern about the impact the regulations would have on the balance of payments.

Dealer/Distributor Comments

European Motorcycles was concerned that the Japanese would obtain more control of the motorcycle market. The Wisconsin Motorcycle Dealers' Association reported that the Japanese manufacturers were meekly protesting the regulation in return for AMF's 'dumping suit' against them.

Response:

The regulation will require manufacturers to change their products as necessary in order to not exceed the noise standards. The impact of this obligation will logically be a direct function of each motorcycle's current noise level. Nearly half of the motorcycles presently sold in the United States already meet the 80 dB noise level. Japanese manufacturers, leaders in the development and implementation of quieting technology, account for most of these sales. To the extent that American manufacturers have fallen behind Japanese producers in the implementation of currently available quieting technologies, they may be more severely cost impacted.

In analyzing the question of the impact of the proposed regulations on the balance of trade it should be pointed out that 93 percent of the motorcycles currently sold in the United States are imported. However, motorcycles constitute only .67 percent of total merchandise imported by the United States. If the remaining 7 percent of motorcycles sold were lost to imports, a proposition that is highly unlikely, the United States merchandise imports bill would increase by only .042 percent. Since Harley-Davidson is expected to remain a strong factor in the United States market, any increase in imports should realistically be assessed at far less than the already minimal .042 percent postulated above. Thus, the impact of importing motorcycles on the United States balance of trade/balance of payments is minimal. In regard to United States exports, the small percentage of AMF/Harley Davidson production that is sent abroad is not expected to significantly change as a result of the proposed noise regulations.

2.5 UNEMPLOYMENT IMPACT ON MOTORCYCLE MANUFACTURING INDUSTRY

Issue: Will the proposed regulation result in a large loss of jobs for individuals currently employed in the motorcycle manufacturing industry?

Comments:

Manufacturers' Comments

Harley-Davidson estimated that the jobs of no less than 12,600 people would be directly affected if Harley-Davidson were forced from the market place. Those affected would be 3,400 Harley-Davidson employees, 6,700 Harley-Davidson dealers and their employees and 2,500 people employed by various other suppliers.

Motorcycle Interest Group Comments

Motorcycle Product News inquired "how severe is the impact of 90 million Americans exposed to Ldn 55 compared with the impact of 3000 to 5000 unemployed?"

Others concerned with the unemployment problem included ABATE of Michigan, ABATE of Illinois, the Pennsylvania Trail Riders' Association, Freedom Rider MC, and the League of Women Motorcyclists.

Response:

At the 83 dB level, the Agency predicts a job loss of 30 positions. It is estimated that an 80 dB level will cause a decrease of 160 jobs. At a 78 dB level, a decrease of 450 jobs would have been projected. However, it is EPA's belief that projected growth in the manufacturing industry will more than compensate for any employment losses that may occur.

2.6 IMPACT ON EXISTENCE OF AFTERMARKET

Issue: Does the regulation threaten to force a large portion of the aftermarket exhaust system industry out of business?

Comments:

Aftermarket Manufacturers' Comments

Aftermarket firms were not only concerned that price increases would make it difficult for them to compete with the OEM, but in addition, expressed the belief that the costs and technical difficulties potentially incurred in developing and producing quieter exhaust systems could actually drive many aftermarket firms out of business. The comments of most aftermarket firms reflected the assessment that regulations would substantially increase cost, making the economics of continued production marginal at best. Jardine Header contended that all aftermarket firms will not be able to remain in business if the promulgated regulatory level were to be more stringent than 83 dB. Alphabets Custom West reported that it will be forced to close if the level drops below 80 dB and was joined by Drag Specialties, Florida Cycle Supply and Kendrick Engineering in asserting that re-tooling and re-designing costs are prohibitive for the aftermarket industry as a whole. Florida Cycle Supply stated that it does not have the resources to re-tool to the extent necessary to meet the proposed standards. RC Engineering estimated that job losses resulting from motorcycle noise regulations could reach 25,000 nationwide. Hooker Industries assessed the effect of regulations on Southern California as causing the loss of 282 positions; 76 percent of which are currently held by minorities.

Trade Association Comments

The Motorcycle Trade Association, the Motorcycle Industry Council, Specialty Equipment Manufacturers' Association, ANCMA, and AESMC contend that the aftermarket firms will be substantially hurt at the expense of the large OEM manufacturers.

ANCMA reports that the 78 dB level will require substantial modifications in technology and production which cannot be afforded by small volume manufacturers. MTA reports the cost advantage which aftermarket firms currently have over OEM will soon disappear.

Motorcycle Interest Group Comments

Concern was expressed that the aftermarket manufacturers would be negatively impacted by the implementation of noise regulations by Motorcycle Product News, ABATE of Illinois, Freedom Riders MC, ABATE of Indiana, Road Rider Magazine, Jersey Motorcycle Association, Inc., Gulf Coast Sandblasters, Inc., Laverda Owners Club, American Motorcycle Association, and AMA Great Plains District 33.

Road Rider Magazine also contends that EPA did not look into the indirect effects of the proposed regulations. "Specifically, elimination of the current exhaust aftermarket firms -- or governmental dictates of exhaust aftermarket design -- could well result in mufflers and other exhaust equipment which would prevent use of a large variety of other aftermarket equipment such as saddle bags, luggage racks and various other touring accessories."

The New England Trail Riders' Association expressed concern about the potential adverse impact of the regulation on small aftermarket manufacturers.

ABATE of Illinois estimated that the promulgation of noise regulations below the 83 dB level will result in job losses between 5,000 and 10,000.

Dealers/Distributor Comments

The following dealers and suppliers stated that the noise regulations will result in substantial job losses for aftermarket firms: Performance Sales Assoc. Inc., Regency Kawaski, Texas Motorcycle Dealers' Association, Wisconsin Motorcycle Dealers' Association, Cycle Sport Unlimited, The Cycle Company, and Dudley Perkins Co.

Response:

The regulations are expected to have a substantial impact on the replacement exhaust system industry. To meet the 80 dB standard, aftermarket replacement exhaust system manufacturers will need to incorporate relatively sophisticated noise attenuation techniques into the design of their mufflers and exhaust sytems. Of the more than 150 firms currently in the market, most are small, low volume enterprises devoted exclusively to manufacturing motorcycle exhaust systems, with little or no capability for innovative product design or development. To produce complying systems for post-1983 (regulated) motorcycles, these firms would be expected to copy the designs of other manufacturers, a common practice at present. The ten to twenty leading firms in the industry are expected to be able to design and produce their own complying systems, although at similar price and performance penalties associated with replacement systems sold by the original equipment manufacturer (OEM).

The demand for non-OEM exhaust systems is expected to be severely impacted. The price of a typical "4 into 1" or "2 into 1" non-OEM replacement exhaust system would be expected to increase by 20 to 25 percent to meet the 80 dB motorcycle regulatory level. The difference in styling, performance characteristics, tonal quality, and noise level between non-OEM and OEM replacement exhaust systems would also be expected to become less. Since an exhaust system manufacturer's success is very dependent on the special styling, performance, and tonal characteristics, and often high noise level, of his product, the impact on demand of changes in these factors might be extremely significant, perhaps more significant than the price change. Based on discussions with aftermarket manufacturers, a 25% reduction in demand for aftermarket exhaust systems would be forecasted by the year 2000 when regulated motorcycles at the 80 dB level would have replaced most unregulated motorcycles in use.

The adverse impact of the regulations on aftermarket manufacturers should be gradual since the standards could be phased in over several years and since firms could continue to product systems for motorcycles manufactured prior to the applicability of the noise standards. However, in the longer term, as unregulated motorcycles are gradually scrapped, and as the demand for complying non-OEM systems falls, many of the small volume manufacturers could switch to alternate product lines, or could go out of business. While the revenue of the ten to twenty leading firms could also decrease as a result of regulation, the larger firms could continue manufacturing replacement exhaust systems. In fact, although a net shrinkage in the replacement exhaust system would be forecast, larger firms could actually experience increased sales as other manufacturers exit from the market. This adverse impact on aftermarket manufacturers would not be projected on the basis of technical incapability or the cost of compliance testing which would be a small fraction of total price increase. Rather, impacts could result as the special characteristics of increased performance, gutteral tone, higher noise level, and styling provided by non-complying exhaust systems on which sales are substantially dependent would be partially eliminated by the requirement to produce quiet exhaust systems.

The expected impacts are based upon the implementation of a successful national federal enforcement program along with complementary enforcement programs by some state and local jurisdictions to identify manufacturers who continue to sell loud non-complying exhaust systems for regulated motorcycles. The fact that currently produced motorcycles will continue to dominate the total "working" inventory of motorcycles for a number of years and that federal regulations will enable firms to continue to produce systems for motorcycles manufactured prior to 1983 will allow aftermarket firms of relatively less financial wherewithal a long transition period in which to adjust to the new standards.

EPA believes that the sales revenues of the general aftermarket products and services industry will be affected only slightly by regulations as long as the number of motorcycles in use is increasing. In fact, aftermarket sales may increase in the short run as a result of regulatory actions, since higher prices of new motorcycles resulting from regulations could provide the incentive to repair and maintain older motorcycles for longer periods. The effect of the regulations is likely to be a slight reduction in the growth of demand, rather than a reduction in the level of demand over the next five to ten year period.

2.7 SHARING TECHNICAL EXPERTISE AND TESTING FACILITIES

Issue: Can EPA support an intra-industry sharing program to share technical expertise and testing facilities?

Comments:

Motorcycle Interest Group Comments

The New England Trail Riders' Association would like to see "attention paid to the idea of sharing technology, possibly through some sort of EPA program, so that no one would be forced out of the market simply because his (the manufacturers) resources are too limited."

Council on Wage and Price Stability (CWPS) Comments:

CWPS commented that EPA should investigate the costs of setting up its own central facility for testing the replacement exhaust systems and charging a fee based on EPA's marginal costs.

Response:

EPA does not have the authority to establish such a clearinghouse for information on noise control technology for manufacturers.

EPA does not believe it should get into the kind of business suggested by CWPS when private enterprise has a large number of facilities across the country that could serve that purpose with likely greater cost efficiency and better service. In addition EPA does not have the authority to establish such a program under the Noise Control Act.

To minimize the burden posed by the compliance testing requirements, the Agency will provide technical assistance to small manufacturers in the testing and certification of their exhaust systems with all the provisions of the regulation. The Agency will also actively support manufacturers in their sharing of test facilities for compliance demonstration.

2.8 ECONOMIC IMPACT ON DEALERS/DISTRIBUTORS

Issue: Will the sale and supply of motorcycles and accessories be adversely impacted, straining the economic viability of the dealers and distributors?

Comments:

Manufacturers' Comments

MAICO stated concern for its dealers since "70 percent of (their) dealers are small specialist shops and rely on MAICO's products to generate at least 50 percent of their business." The additional costs needed to meet future EPA requirements would price MAICO's products out of the market. The net result would be that these three-and four-man shops would go out of business, not only creating unemployment, but financial disasters for their suppliers.

Trade Association Comments

MTA expressed concern that if the noise regulation disrupts the supply of new motorcycles and related products sufficiently, dealers will not be able to meet overhead costs and will be forced out of business. MTA expects 2,000 retailers to be severely disabled or forced out of business. MTA predicts the sales loss for new motorcycles to reach $473 million to $565 million, including spin-off sales from the aftermarket, by the third year of the proposed regulation.

Motorcycle Interest Group Comment

The Laverda Owners' Club contends that Italian motorcycle dealers will be forced out of business by these regulations.

Dealer/Distributor Comments

Harley-Davidson of Valdosta, the Ohio Motorcycle Dealers' Association, Honda West, Cycle Sport Unlimited, the Pennsylvania Motorcycle Dealers' Association, and the Texas Motorcycle Dealers' Association expect a decrease in sales because of the regulations.

Concern was expressed by Regency Kawasaki, Texas Motorcycle Dealers' Association, Wisconsin Motorcycle Dealers' Association, Munroe Motors, Western Kawasaki, Cycle Sport Unlimited, European Motorcycles, Pennsylvania Motorcycle Dealers' Association, and Dizzy Dave's Suzuki, about the possibility of dealers and distributors being forced out of business.

Response:

EPA estimates that level of demand for street motorcycles will increase annually through 1990. Given the quickly escalating prices of gasoline and the fuel efficiency and low operating costs of motorcycles it is likely that the increase in motorcycle sales will be very significant. By contrast, the overall impact of noise regulations on the sale and supply of motorcycles is expected to be very small.

The only aftermarket products expected to be impacted by the promulgation of noise standards are replacement exhaust systems. EPA estimates that the 80 dB noise standard could cause a 25 percent reduction in demand for aftermarket exhaust systems. However, it is believed that the regulations will cause no significant adverse impact on the economic vitality of the overall motorcycle parts and accessories aftermarket industry.

Since MAICO's product line is predominantly large off-road and competition motorcycles, both of which have less severe standards than street motorcycles or are not regulated at all, EPA does not expect the impact on MAICO's dealers to be as burdensome as was suggested in the docket submission.

If the 78 dB level had taken effect, Laverda along with some other small European manufacturers might very well had withdrawn from the U.S. market. However, dealers and distributors of such motorcycles would have had adequate lead time to diversify their business and reduce any impact of, for example, a withdrawal by Laverda from the U.S. market.

2.9 ECONOMIC IMPACT ON CONSUMERS

Issue: Will the regulations affect the cost of buying, operating, and maintaining a motorcycle?

Comments:

Manufacturers' Comments

Honda reports that although the technology exists to meet the 78 dB level, decreases in fuel economy are expected.

Motorcycle Interest Group Comments

ABATE of Illinois opposed the regulation because it would impact negatively on fuel efficiency.

The New England Trail Riders' Association was concerned with the price increases associated with motorcycles meeting the 78 dB level. However, they also pointed out that consumers are already paying higher prices to cover R&D work on engine and suspension development rather than on noise control. Technology will not be static in the future and noise control will be worth the costs since many of its members already spend time and money quieting bikes.

Response

The regulations will likely mean higher purchase prices for many new motorcycles, although the amount of the increases will vary widely from motorcycle to motorcycle. The level of motorcycle demand, however, as well as the total revenues of the industry are expected to substantially increase. Operating costs for street legal motorcycles have been assessed as being virtually unaffected by the regulations. Given a 80 dB regulatory level and an average fuel consumption of 47 m.p.g., EPA estimates that 2,300 miles per year will use about one gallon more gasoline each year as a result of the noise regulation. EPA has estimated the total annual increase in maintenance costs prompted by an 80 dB regulatory level would be about five dollars.

3. TECHNOLOGY

3.1 BEST AVAILABLE TECHNOLOGY DEFINITION

Issue: What is EPA's definition of 'best available technology'?

Comments:

State and Local Government Comments

The Oregon DEQ does not support EPA's rationale for best available technology. The mid-point within the motorcycle industry should be used as a measure rather than using the least technologically innovated firm as the standard. Of concern to the Oregon DEQ is Harley-Davidson, which "has changed (its design) little over the past several decades." While agreeing that it is unfortunate for Harley-Davidson to suffer economic impact, the DEQ does not believe that the exhaust tone should be predominant on any motorcycle, no matter what place it holds in American tradition.

Motorcycle Interest Group Comments

Road Rider Magazine charges that EPA skirts the issue of 'best available technology'. Because Honda can support a separate research and development corporation, it does not mean the whole industry can. The definition of 'best available technology' should be carefully delineated.

BMW Motorcycle Owners of America contend the performance should be a consideration in best available technology and that EPA is wrong in assuming that performance is less of a consideration for street motorcycles than for off-road motorcycles.

Private Citizen Comments

Mr. John Viggers stated that "it appears that the definition of "best available technology" adopted by the EPA is that if it can be done, it will be done, no matter what the cost. This is absurd at the very least. In the EPA's own analysis it states that 70-90% of the benefit of the proposed regulations can be had for 1/2 the cost if the 80 dB level is used instead of the 78 dB for street motorcycles. Decreasing marginal returns are encountered prior to reaching the 78 dB level. It must be remembered that, unlike trucks and buses, motorcycles are a consumer product and that the buyer cannot pass on his increased costs. Best available technology in this instance should mean maximum public gain with least industry disruption. This is clearly not true at the 78 dB regulatory level."

Response:

Section 6 of the Noise Control Act requires that the regulation "reflect the degree of noise reduction achievable through the application of the best available technology, taking into account the cost of compliance." For the purposes of this regulation, best available technology is defined as that noise abatement technology available which produces the greatest achievable, meaningful reduction in the noise produced by motorcycles. EPA considers that the level "achievable through the application of the best available technology" is the lowest noise level which can be reliably predicted based on engineering analysis of products subject to the standard that manufacturers will be able to meet by the effective date, through the application of currently known noise attenuation techniques and materials. In order to assess what can be achieved, EPA has: (1) Identified the sources of motorcycle noise and the levels to which each of these sources can be reduced, using currently known techniques: (2) determined the level of overall motorcycle noise that will result; (3) assured that such techniques may be applied to the general motorcycle population; (4) assured that such techniques are adaptable to production line assembly; and (5) assured that sufficient time is allowed for the design and application of this technology by the effective dates of the standards. The regulatory levels that were selected were based on not only the availability of technology, but also in consideration of the anticipated cost of utilizing the technology and the health and welfare benefits expected as a result of the regulation to that level.

EPA's analysis of the best available technology also considered off-road and street motorcycles separately. Power, performance, displacement, style, design, and the applicability of liquid cooling were among the many considerations given to both types of motorcycles. The resulting regulation reflects the different considerations given to the technical state of the art of each motorcycle type.

3.2 'NOT TO EXCEED' LEVELS

Issue: Did EPA consider that in order to reach the proposed noise levels, it would be necessary to design from 2 to 3 dB below the levels, which adds substantially to the compliance burden?

Comments:

The 'not-to-exceed' basis will require noise levels to be 2 to 3 dB lower than the standards. This raised concern and opposition from a wide range of commentors including Harley-Davidson, Honda, Husqvarna, Kendrick Engineering, MIC, MTA, ANCMA, and Road Rider Magazine.

MIC indicated special concern for the small firms, who would be unable to meet such stringent standards.

MTA claims EPA has underestimated the technical difficulties that the proposed regulation will create for manufacturers and aftermarket firms.

Road Rider Magazine charges that EPA's setting of a 78 dB level is a "subtle and deceitful means of adopting what is actually a 75 dB level."

Response:

In order to meet the regulatory not-to-exceed levels, EPA has anticipated that manufacturers will have to design to 2 to 3 dB below the regulated level. Each major manufacturer supplied EPA with estimates of manufacturing unit cost increases for specific models to meet the specified noise levels on a not-to-exceed basis. Since EPA's regulations are on a not-to-exceed basis, manufacturing, design and production must account for the variation of noise levels associated with their products to assure compliance with the standards. The manufacturers supplied EPA with data on the product variations exhibited by certain models. These data indicate that the variations in motorcycle levels range from 1.5 to 4 dB. EPA looked at the design levels to determine the best available technology. Also, the costs of compliance were calculated with design levels in mind.

Thus, EPA did not ignore or attempt to hide the fact that the technology and costs to meet a "not-to-exceed" standard must always be assessed taking normal product variation into account at a design level which is lower than the not-to-exceed number. This is a standard regulatory assessment procedure. Manufacturers are expected to design their motorcycles 2 1/2 dB below the final standards.

3.3 USE OF AIR-COOLED ENGINES

Issue: Will the proposed regulation force the demise of air-cooled engines?

Comments:

Manufacturers' Comments

Liquid cooling will be necessary for Honda to meet the 78 dB level for large displacement motorcycles.

MAICO reports that to meet the proposed off-road motorcycle standards, water cooling will be needed for two-cycle engines. The feasibility of using liquid cooling on off-road motorcycles has not been studied and is not known.

Dealer/Distributor Comments

The Wisconsin Motorcycle Dealers' Association wants EPA to establish a uniform noise emission standard that is achievable by large two-cylinder, air-cooled motorcycles.

Motorcycle Interest Group Comments

The BMW Motorcycle Owners of America contend that EPA can not outlaw air-cooled engines, nor require that aircooled motorcycles meet the standards, nor require that all motorcycles be liquid cooled. Air-cooled engines represent a special design of motorcycles and considering numerous factors, they represent the best available technology already.

ABATE of Illinois is also concerned that the regulation will force water cooling.

Motorcycle Product News resents the federal government's attempt to force engine design onto the motorcycling public by requiring liquid-cooled engines, because it restricts freedom of choice.

Response:

EPA is not "outlawing" air-cooled systems or requiring all motorcycles to be liquid cooled. EPA is requiring that all new motorcycles meet the specified noise levels. Liquid cooling is one way in which manufacturers could technically meet street motorcycle standards. Liquid cooling represents one aspect of the best available technology and does not represent "forced engine design" onto the motorcycling public.

In the case of off-road motorcycles, water-cooling is not expected to be necessary. In fact, as discussed in the Regulatory Analysis, liquid cooling is not considered feasible for off-road motorcycles, due to the weight involved and the effect of fragile components on the crashworthiness of the motorcycle.

3.4 TWO-CYCLE MOTORCYCLES

Issue: Will the regulation adversely impact the continued use of two-cycle motorcycles?

Comment:

Motorcycle Interest Group Comments

The League of Women Motorcyclists pointed out that if four-cycle motorcycles are required, then it must be considered that they may be too heavy to handle for the average motorcyclist.

Dealer/Distributor Comments

The Ohio Motorcycle Dealers' Association expressed concern for the economic hardships on manufacturers who produce two-stroke machines.

Response:

EPA's off-road noise standards can be met by both large and small two-stroke engines.

Street two-stroke motorcycles with displacement greater than about 170 cc would have difficulty meeting a 78 dB level unless they were water cooled. However, there has been a steady decline in the number of manufacturers of two-stroke street motorcycles. Currently Yamaha is the only manufacturer selling a large two-stroke street-only motorcycle. A number of manufacturers still produce dual purpose two-stroke mid-sized engines, but these have also suffered a noticeable decline in recent years. Therefore, EPA does not foresee that any substantial hardships will be placed on dealers who sell such motorcycles.

3.5 TWO-CYLINDER MOTORCYCLES

Issue: Will two-cylinder motorcycles be eliminated because of the regulation?

Comments:

A private citizen expressed concern that the proposed rules would defacto destroy American sales for most two-cylinder motorcycles, e.g., BMW, Harley-Davidson, Ducati, and Triumph.

Response:

Two-cylinder motorcycles will not be eliminated due to the regulation. However, at a 78 dB level, the large displacement two cylinder engined motorcycles would have likely required water cooling. All current manufacturers of such motorcycles are believed to have the technical capabilities if they had been required to meet a 78 dB level.

3.6 PERFORMANCE LOSS

Issue: Will motorcycle performance losses result from the noise regulations?

Comments:

Manufacturers' Comments

Honda, Kawasaki, MAICO, Suzuki, Triumph, and Yamaha state that performance loss is expected. Honda reports technologies are available to meet 78 dB, but these will demand performance penalties. Yamaha contends that an extra amount of lead time may allow manufacturers to regain some of the performance loss.

Husqvarna, currently priced 35 percent above the market price of comparable models, "will no longer be considered an outstanding value if it becomes necessary to reduce engine performance or increase its weight substantially," in order to meet the proposed standards.

Aftermarket Manufacturers' Comments

Alphabets Custom West stated that to a certain extent performance can be maintained with mufflers as they are made quiet. However, Alphabets questions whether this holds true below 83 dB.

State and Local Government Comments

The San Francisco Police Department Noise Enforcement team questioned the need for so much power when the maximum speed limit is 55 mph.

Motorcycle Interest Group Comments

The New England Trail Riders' Association contends that for off-road machines, there have been substantial decreases in sound accompanied by substantial increases in performance. Noise abatement is necessary for the Association's continuation of the sport of trail riding in areas like New England with high population densities.

However, Freedom Riders MC, Gulf Coast Sandblasters, Inc., Motorcycle Product News, and AMA Florida District A, all associate performance loss with the regulations.

Response:

From the data submitted by manufacturers, it is apparent that motorcycles initially may suffer some performance losses as they are required to meet lower noise levels. Liquid cooling can abate this trend somewhat. However, this technique plus some of the other noise reduction methods and components will cause some additional weight penalties.

Several manufacturers indicated that with proper lead time, performance can be regained. Partly with this in mind, the lead times for the regulation have been extended.

3.7 HEADER PIPES

Issue: Are exhaust header pipes to be regulated by EPA's motorcycle noise proposal as they are potential contributors to continuing noise problems?

Comments:

Aftermarket Manufacturers' Comments

Nelson Industries reports that since exhaust header pipes are not regulated, motorcyclists can install the pipes and adversely affect the performance evaluation of a replacement muffler. Knowledge or control of this action would be impossible for the muffler suppliers.

Response:

The use of different header pipes is not expected to cause any appreciable increase in noise emissions. For this reason, Section 205.164(e) of Subpart E of the regulation specifically provides that exhaust header pipes sold as separate products are not required to be labeled.

3.8 DESIGN CRITERIA FOR MUFFLERS

Issue: Should design criteria for mufflers be established?

Comments:

Manufacturers' Comments

Suzuki contends that there is "little data available which indicate the relationship of design criteria to noise control performance, including durability, so it is impossible at this time to evaluate muffler performance by design criteria."

Aftermarket Manufacturers' Comments

Nelson Industries states that design criteria restrict innovation, reduce competition and foster the continuation of obsolete technology; and thus, design criteria are undesirable.

Tenneco Automotive believes it is not the prerogative of EPA to designate design standards, but only performance standards.

State and Local Government Comments

The Oregon Department of Environmental Quality thinks that consideration should be given to certain design features for mufflers, but that the requirements should be separate and distinct from the labeling requirements.

Trade Association Comments

The Automotive Parts and Accessories Association cautions EPA to focus its efforts on developing performance standards and not design standards.

AESMC opposes design criteria in principle and also for technical reasons. The design standard idea is also contrary to the explicit dictates of the Noise Control Act of 1972, Section 6(c)(1).

Motorcycle Product News also is on record as opposing the design criteria concept.

Response:

To deal with the potential problems posed by replacement exhaust systems with removable baffles and degradable components, EPA was considering a program by which exhaust systems would be evaluated on the basis of design characteristics since conformance to design criteria rather than noise levels might ease compliance to meet the applicable Federal performance standards over the specified Acoustical Assurance Period. However, the public comments solicited by the Agency did not endorse the design criteria concept. Based on the unfavorable response and on further analysis and review of EPA's objectives and resource limitations, the Agency has decided against establishing design criteria for replacement exhaust systems.

3.9 CHANGES TO STYLING AND DESIGN

Issue: Will unattractive design and styling changes result from the regulations?

Comments:

Manufacturers' Comments

Harley-Davidson and Kawasaki are concerned over the design changes that will be necessitated by the regulations. Harley-Davidson predicted possible sales' decline because of the styling compromises.

Aftermarket Manufacturers' Comments

Jardine Header contends that the cosmetic nature of exhaust systems will disappear.

Motorcycle Interest Group Comments

Motorcycles are attractive due to their simplicity and low weight. Concern was expressed over the loss of these product design amenities by ABATE of Illinois, Jersey Motorcycle Association, Inc., Laverda Owners' Club, and Motorcycle Product News.

Response:

EPA recognizes that styling is an important design element. Noise reduction techniques which have an adverse effect on the style and design of motorcycles have the potential of reducing sales, independent of costs and performance factors. The Agency has taken these factors into consideration on final noise standards. The final standards may alter the styling of motorcycles slightly but is not expected to have a major negative impact on styling. Several large motorcycles currently being marketed incorporate many of the design elements likely to be required with a highly successful ongoing volume of sales. Further, the cosmetic nature of exhaust systems may change slightly, but is not expected to disappear.

3.10 POTENTIAL INCREASE IN TAMPERING DUE TO REGULATION

Issue: Concern was expressed that reduced noise levels, poor aesthetic design and performance loss will result in increased temptation for the owner/user to tamper with motorcycles.

Comments:

Manufacturers' Comments

Kawasaki reported that motorcycles produced at lower noise levels will suffer an even greater incidence of owner modification than the 12 percent estimated by EPA.

MAICO and Yamaha attribute the expected increase in tampering to customer efforts to regain lost performance. Yamaha predicts, however, that if sufficient time is given to regain the performance lost, then the expected increase in tampering will drop significantly.

Aftermarket Manufacturers' Comments

Jardine Header and RC Engineering report that anything below 83 dB will encourage tampering. Hooker Industries confirms this and feels that the extremely quiet standards would increase user tampering enough to grossly increase the overall motorcycle noise levels.

Levels below 83 dB will also allow black market manufacturers to emerge with purposely loud exhaust systems, according to Hooker Industries.

State and Local Government Comments

The California Highway Patrol's testimony indicated that lower limits are likely to increase the temptation for customers to make modifications in the belief that more power will result.

Trade Association Comments

The MIC also contends that weight and performance penalties associated with reductions below 86 dB for off-road and 83 dB for street motorcycles will cause an increased temptation to tamper. It is also MIC's belief that the cost penalties associated with replacement exhaust systems for off-road motorcycles may cause users to remove the mufflers entirely.

Dealer/Distributor Comments

The Ohio and Pennsylvania Motorcycle Dealers' Associations believe that the regulations will encourage owners to tamper with or modify their motorcycles.

Motorcycle Interest Group Comments

Similar fears were expressed by Motorcycle Product News and Rider Magazine towards increased tampering. Motorcycle Product News advises EPA that it is extremely difficult to control human nature when temptations to tamper exist.

Response:

The regulations are likely to increase the temptation to tamper to obtain perceived losses in performance or aesthetic design. EPA's air emission regulations have proven this fact. However, that is not sufficient justification to avoid regulating motorcycles. Rather, the solution is to reduce tampering. A substantial part of the regulation is directed toward solving this problem. First, in addition to requiring that new motorcycles be quieter, replacement exhaust systems must be suitably noise attenuating, and be so labeled. Second, the regulation will make it illegal for consumers to tamper with a motorcycle so as to cause it to exceed the noise standards. Thus, EPA proposes to provide "tools" to state and local governments to control the consumer modification part of the motorcycle noise control problem. It is not anticipated that these regulations will solve all of the problem, but rather only a part of the motorcycle generated noise problem in the United States. Complimentary state and local actions, especially enforcement actions against tampering, will be essential to achieve that goal.

Black market operations by their very nature would be in violation of Federal law. Since it is highly likely that such operations would not label, test, or certify their products, the Agency will take legal action upon discovery of their existence.

As motorcycle manufacturers and aftermarket firms become more sophisticated in noise abatement, they will be able to replace part of any lost performance which will, in turn, decrease the temptations to tamper. The public is also expected to become more accustomed to quieter motorcycles and to the idea that less noise does not necessarily mean less power.

3.11 LOWER STANDARDS FOR OFF-ROAD MOTORCYCLES

Issue: Should off-road motorcycles have more stringent standards?

Comments:

State and Local Government Comments

The Florida Highway Patrol and the Oregon Department of Environmental Quality both recommended treating off-road motorcycles similarly to street models. The Oregon DEQ stated that placing less restrictive standards on off-road motorcycles does not adequately protect the public's health and welfare.

Off-road motorcycles were seen as the 'real' problem by: the Washington Council of Governments; the Oregon DEQ; the California Highway Patrol; the City of El Segundo, California; the Hillsborough County, Florida Environmental Protection Commission; Jacksonville, Florida, and the Orange County, Florida Pollution Control Department. Only the San Francisco Police Department's Noise Enforcement team did not view off-road motorcycles as a problem since San Francisco has 'dedicated areas' for off-road use.

Public Interest Group Comments

The American Hiking Society stated that off-road motorcycles should be quieted to street levels. The Environmental Law Society urged EPA to reduce off-road noise levels at least as much as street motorcycles. If the costs are too high, additional lead time is recommended.

Response:

Although motorcycles with off-road capability can be built at levels almost as low as street motorcycles, such motorcycles would suffer significant performance penalties. Weight, power, and ground clearance are all of crucial importance to off-road motorcycles. These factors, plus the inappropriateness of applying liquid cooling to off-road motorcycles has led to different levels of best available technology for large off-road and street motorcycles.

Regulatory levels stricter than the proposed 82 dB for large off-road motorcycles were seriously considered. However, the performance penalties associated with stricter standards would have a severe impact on the character of the sport of off-road motorcycling as it is known today and could stimulate excessive modification of existing motorcycles. The Agency believes that the standard for off-road motorcycles must be that level which minimizes the noise impact from these vehicles and, at the same time does not significantly alter the nature of the sport.

3.12 CATEGORIES OF OFF-ROAD MOTORCYCLES

Issue: Are there justifiable reasons for having two categories of off-road motorcycle regulations, above and below 170 cc?

Comments:

Manufacturers' Comments

Husqvarna, MAICO, Suzuki and Yamaha all contend that there is no reason for having two categories of off-road motorcycles. Classification by displacement is not warranted because of the minimal impact of off-road motorcycles.

Yamaha points out that small off-road models will require the same technical improvements in order to comply with EPA regulations. Husqvarna states that the smaller the engine size the harder it is to quiet because small motorcycles are more sensitive to additions in weight and work on higher performance levels than larger engines.

State and Local Government Comments

The Oregon Department of Environmental Quality saw no reason to divide off-road motorcycles into two categories. If EPA still wants to make such a distinction, the Oregon DEQ recommends 225 cc as the dividing line.

Trade Association Comments

MIC and MTA feel that the 170 cc level is an arbitrary figure and to require lower levels for small motorcycles will only encourage the purchase of slightly larger models.

ANCMA feels that a single fixed standard of 86 dB should be considered for off-road vehicles.

Motorcycle Interest Group Comments

The New England Trail Riders' Association reports that levels below 86 dB are obtainable for off-street models of all sizes since its members have attained these levels.

Dealer/Distributor Comments

Spokane Suzuki agrees that off-road motorcycles are indeed noisy and that they should be required to meet 86 dB level.

Response:

The Agency's proposal to set different standards for small and large off-road motorcycles was based on technology and cost considerations. Namely, the Agency still finds that small displacement off-road motorcycles require substantially different degrees of treatment to reach reduced noise levels, with substantially lower costs and performance penalties, than large displacement motorcycles.

At the 80 dB regulatory level for small off-road motorcycles, the technology to reach these levels is available at reasonable costs and with minimum associated performance penalties. In addition, the Agency has reason to believe that small off-road motorcycles, the most populous class of off-road motorcycles, are more likely to be operated in and around urban fringe areas where noise level reductions would accomplish significant noise impact relief. Although some small off-road motorcycles already meet the proposed levels, play-bikes can range up to 86 dB and small displacement semi-competition models often exceed 90 dB.

At an 82 dB regulatory level for large off-road motorcycles, the technology is available at reasonable costs with acceptable associated performance penalties. Studies indicate that levels stricter than 82 dB for large off-road motorcycles would exact severe performance penalties that would have a substantial impact on the character of the sport of off-road motorcycling as it is known today. Stricter levels could also increase the tendency for users either to modify their off-road motorcycles or to abuse the intended distinction between genuine competition and non-competition motorcycles by using uncontrolled competition off-road motorcycles for recreational riding.

3.13 LEAD TIMES

Issues: Considering technical and economic constraints, are the proposed lead times sufficient?

Comments:

Manufacturers' Comments

Harley-Davidson contends that the lead times are clearly underestimated. The regulations fail to recognize manufacturing and engineering lead times such as machine tool sourcing and delivery. The short lead times do not allow Harley-Davidson to introduce products in an evolutionary way and meeting the proposed 80 dB level will require extensive changes, comparable to designing a new engine.

MAICO states that EPA's lead times are not acceptable. More time is needed to develop high performance engines and six years are needed to meet the 86 dB level for off-road bikes. The time needed to reach 82 dB is unknown. For 1980, MAICO proposes 90 dB for off-road and by 1986 down to 88 dB for off-road motorcycles above 249 cc.

Motocicletas Montesa reports that it can meet the 1980 level of 86 dB for large off-road motorcycles, but at substantial costs. For off-road motorcycles under 170 cc, longer lead times are needed and January 1985 would be the earliest date Motocicletas can meet the 82 dB standard.

Triumph stated that meeting the 80 dB level will be difficult and possibly unattainable. The 78 dB level is undoubtedly impossible.

Since the regulations can not be finalized in time for the 1980 model year, Suzuki recommends delaying implementation until 1982. If EPA forces manufacturers to incorporate new noise control specifications in the 1981 model year, this will result in a change to exhaust emission specifications as well. This will cause Suzuki to recertify its 1981 model street motorcycle at $80,000 per engine family.

Suzuki should be able to incorporate the off-road standards into its 1981 model year and will be able to meet street noise levels for 1981, if nine months lead time exists after final issuance of the noise standards.

Yamaha recommends that the 86 dB standard become effective in 1982 at the earliest, in order to provide ample time for cost cost studies and the development of technology. The levels for off-road motorcycles below 170 cc are too stringent and performance loss can be expected to occur should these standards be established.

Trade Association Comments

BPICM contends that the targets set by EPA are impossible to achieve because the proposed lead times are inadequate. BPICM proposes 83 dB for 1982 and a drop of 1 or 2 dB for 1985, if technology and economics permit.

MIC and the Specialty Equipment Manufacturers' Association expressed concern that small manufacturers, especially those in the aftermarket cannot meet the standards with the proposed lead time, since they lack research and development ability. The Specialty Equipment Manufacturers' Association further points out that the rapid changes demanded of the OEM by these regulations will in turn disrupt aftermarket design efforts.

Motorcycle Interest Group Comments

The New England Trail Riders' Association states that the lead time to meet the 1980 standards look very generous since many manufacturers already meet these levels.

Public Interest Group Comments

Citizens Against Noise Trespass propose the following lead times: street motorcycles - 83 dB by 1979, 80 dB by 1980, and 78 dB by 1981. For off-road motorcycles, 86 dB should be reached by 1979 and 82 dB by 1980.

Response:

The Agency has reviewed the lead times originally proposed, and has extended the lead times. The standards can be achieved by the four largest manufacturers in the industry (all Japanese -- accounting for 90% of the U.S. market) on an orderly basis. The standards are achievable by the smaller manufacturers provided they are willing to make the necessary investments in research and development to redesign their engines. For these manufacturers the extended effective dates should allow them sufficient time to develop, retool, and manufacture their redesigned, complying products.

It is revelant that several States, with more stringent standards than the Federal standards, have given the motorcycle industry notice that quieted products would be required by in the near future even assuming Federal standards were not issued. Thus, the industry has known for several years already that increasingly more stringent noise levels would be required in the 1980's.

4. TESTING

Comments received concerning the test procedures proposed in the motorcycle noise emission regulation were extensive and detailed. In order to facilitate understanding of the issues involved in the selection of test procedures a brief overview of each of the test procedures originally proposed and the intended purpose of the test procedure is provided in the following paragraphs.

The three test procedures are to determine:

- Motorcycle Compliance
- Replacement Exhaust System Compliance
- Stationary Sound Level Label Value

Motorcycle Compliance

The test procedure originally proposed for determining the compliance of newly manufactured street and off-road motorcycles with the not-to-exceed standards was a F76 pass by test procedure developed by EPA. This test procedure is to be used by motorcycle and moped manufacturers to meet production verification requirements and will be used by EPA enforcement officials to verify compliance. A slight variation of this test procedure is used to determine moped compliance. Comments received about the moped test procedure are discussed in Section 8 of the Docket Analysis.

Replacement Exhaust System Compliance

As originally proposed, aftermarket manufacturers would be required to test a newly manufactured replacement exhaust system on the motorcycle makes and models for which the system was designed to be used in order to determine compliance. The standards for replacement exhaust systems are stated in the regulation in terms of the pass-by test procedures (same test and levels as for motorcycles.)

To ease the burden of compliance, aftermarket manufacturers were permitted to use the F50 stationary test for certification purposes instead of the pass-by test procedure. The replacement exhaust system would be considered to be in compliance for a particular make and model of motorcycle if when tested using the F 50 stationary sound level test procedure the noise emission levels were equal to or no more than three dB below the stationary sound level label value for that particular motorcycle.

If the replacement exhaust system did not pass this test, the aftermarket manufacturers could then test the motorcycle and replacement exhaust system with the pass-by test procedure to determine compliance with the noise emission levels as stated in the motorcycle replacement exhaust system regulation. If the test values did not exceed the noise emission standard then the replacement exhaust system would be considered to be in compliance. Therefore, although it was not necessary to test using the pass-by test, the noise emission standards for replacement exhaust systems stated in the proposed regulation were in terms of this procedure. Thus, under the proposed rules, the governing or ultimate factor in determining compliance of a replacement exhaust system would have been the test values of the pass-by test procedure.

Stationary Sound Level Label Value

The test procedure originally proposed to determine the stationary sound level label value was the F 50 stationary test procedure. A label which includes the SSL value determined by the F 50 test procedure was to be affixed to all newly manufactured motorcycles and mopeds. This test procedure was also intended for one that use by state and local enforcement officials to control motorcycle noise in conjunction with the Federal Standards.

Comments received about each of the three test procedures and the EPA responses to the comments are presented in the three issues that follow.

4.1 MOTORCYCLE COMPLIANCE TESTING

Issue: Is the test procedure, as proposed, the best possible for EPA and manufacturers?

Comments:

Manufacturers' Comments

MAICO favored the use of a stationary test rather than the acceleration test and would like to have the test procedures simplified.

"Suzuki supports development of a high correlation stationary test which can be used in place of acceleration testing. Such testing could simplify the manufacturer's task in certifying motorcycles, and would simplify test site requirements. Such a test would obviate the need for additional test sites as we currently envision."

"Since stationary testing would help Suzuki, we are willing to support EPA's efforts to develop a high correlation stationary test. Suzuki has pointed out in previous submissions some of the problems which must be overcome before the test can be used for either certification or in-use enforcement (please refer to our letters dated February 24, 1978 and March 6, 1978). So far, ignition disable equipment is not available for all models, is not durable, and may not be as accurate as desired."

Suzuki, like Kawasaki, reported that the J331a test was simpler than the F76a procedure and requires less time with lower costs. The J331a is supported by Suzuki because of its efficiency and repeatability. Suzuki did acknowledge, however that the J331a procedure is subject to gearing and sprocket changes, although any shortcomings of the J331a are likely to be reduced or eliminated by the revision of J331a currently being developed by SAE. Suzuki does not foresee any major problems with a 10m minimum acceleration distance.

In regard to off-road motorcycles, Suzuki does not believe the complexity of the acceleration test is justified because of the high incidence of modifications and small relative impact of off-road motorcycles.

Harley-Davidson reported that the substantial difference in results between the F76a at 60 percent, the F76a at 55 percent, and the SAE J331a tests, made it difficult to respond to the proposed rulemaking. However, Harley-Davidson does favor the F76a test as it offers better repeatability, minimizes variability, and offers improved potential for correlation with the stationary or engine dynometer testing method. For motorcycles with a displacement over 675cc, Harley-Davidson expects EPA to use the F76a test with a 55 percent endpoint. Harley-Davidson further contended that it is undesirable to continue to use a test method where results are so dependent on gear ratios. The test procedure should specify the selection of the lowest gear that requires an acceleration distance of ten meters.

Harley-Davidson also commented that consideration should be given to the weather, production scheduling and the general difficulties associated with the pass-by test during winter. Finally, Harley-Davidson stated that provisions should exist to allow for future improved methods of testing as their value is demonstrated.

Honda found that the F76a procedure measured noise from the 250cc and less displacement street motorcycle class up to 3 dB louder than the J331a procedure. However, other classes were comparable. Honda suggested a closing rpm of 90 percent for the F76a test for 100 cc motorcycles with a sliding scale down to 55 percent for the 675 cc motorcycles.

Safety hazards prevented Husqvarna from obtaining any test consistency and therefore Husqvarna found it virtually impossible to obtain valid data for discussion.

Kawasaki stated that the J331a test procedure has provided it with a satisfactory test which is repeatable, easy to perform, and takes less time to conduct than the acceleration procedure recommended by EPA. Kawasaki is unsure that EPA's recommended test will provide any significant advantages over the J331a.

Yamaha commented that, "If a stationary test procedure has a high correlation with the proposed acceleration test procedure, and it is possible to minimize standard errors in the measured values, it can be then substituted for the proposed acceleration test procedure. In reality, such a practical stationary test procedure is not presently available. This matter should be considered as a study subject. We are in agreement with Appendix 1-2, Stationary Noise Emission Test Procedure, as a field check test on in-use motorcycles, provided that at least a 5 db test-to-test variance is taken into consideration. This deviation in test results is as recognized by the International Standard Organization in ISO/DIS 5120."

Yamaha opposed the 10 meter minimum distance because: (1) a gear higher than second gear would have to be used; (2) speeds will need to be increased raising the necessity for longer courses; and (3) for motorcycles whose acceleration distance is very close to the proposed minimum acceleration distance, the gear to be selected may need to vary, resulting in discrepancies and poor repeatability.

Yamaha contended that the proposed acceleration procedure presents serious danger to the rider for personal injury, as well as raises problems with insurance premiums and workmen's compensation.

State and Local Government Comments

The California Office of Noise Control contended that EPA's test procedures are too lenient with regard to the larger motorcycles. The maximum rpm test would only test motorcycles over 675 cc at 55 percent of capacity, which does not accurately reflect driving styles.

The Oregon DEQ commented that the proposed EPA acceleration test does eliminate the biases and inequities of the SAE J331a. The EPA test also appears simple enough to be performed repeatedly with accuracy. It is also important that the acceleration test coordinate well with the stationary test and be flexible enough so enforcement officials can set it up in varying locations. However, the Oregon DEQ does not think it is necessary to adopt standards for both acceleration and stationary tests and warned that any test which required a 95 percent maximum rpm is risky and will expose testing authorities to liability.

The Maryland State Police commented that the F76 test requires too much space and hampers enforcement. The City of Eugene, Oregon likewise opposed the use of the 50-foot moving test and favors the 20-inch stationary test. However, the San Francisco Police Department Noise Enforcement team believes that the drive-by test is the only way to accurately test.

The California Department of Health found the proposed test inadequate for larger motorcycles. "It appears that the EPA procedure does a satisfactory job on the smaller motorcycles but tends to indicate emission levels of larger motorcycles that are approximately on par with their 55 mph steadystate cruise levels, hardly a maximum noise producing mode of operation. The 55 percent maximum rated engine rpm test cut-off point is inadequate for larger motorcycles and that compliance with such a procedure will result in a severe degradation in the progress that has been made in motorcycle quieting in California."

The Maryland State Police reported that the acceleration test is highly restrictive for actual enforcement because of site constraints and the type of equipment needed. "Additionally, by proposing the utilization of percentages of rated horsepower revolutions per minute, the officer would be further encumbered by requiring him to have immediately available voluminous literature concerning the rated horsepower of each motorcycle."

The California Highway Patrol was concerned "about the phrase 'the throttle shall be smoothly and fully opened', and 'the throttle shall be smoothly and fully closed' used in the measurement procedure. The other standards for motorcycle noise testing as well as in other vehicle testing require the vehicles' throttle to be rapidly and fully opened. 'Rapidly and fully opened' appears to be more definite and meaningful than smoothly opened.

"In order to achieve the rapid acceleration necessary for the test to be repeatable, the throttle must be rapidly opened. The throttle could be rapidly and smoothly opened but the requirement to be smoothly opened alone leaves the rate at which it is opened at the discretion of the rider. One test rider could smoothly and slowly open the throttle while your testing agency could smoothly and rapidly open the throttle and result in a considerable difference in the sound level data measured on the vehicle, even with the fixed end point which is near the microphone. [The California Highway Patrol] suggests that the word 'rapidly' be added before smoothly to make the phrase now read 'rapidly and smoothly'."

The California Highway Patrol also would like to see provisions for a deceleration test when deceleration noise proves to be a problem.

Trade Association Comments

The MIC urged the continued use of the SAE J331a procedure since it takes less time to administer and the testing technicians are already familiar with its use. SAE J331a also has a large historical data base. The MIC/ E-76 test procedure has also shown more correlation to the acceleration test than the EPA proposals.

The MIC believes that the acceleration test is far more expensive and time-consuming than conducting the 20-inch stationary test.

The MIC also warned of problems with testing off-road motorcycles with specialized tire patterns.

Motorcycle Interest Groups

Road Rider Magazine stated that "EPA should not require use of F76 only but should allow the use of F76 or SAE J331a test procedures.

The Pennsylvania Trail Riders' Association views the proposed moving sound test as totally "outrageous." The safety risks are very high. Since local authorities will most likely establish static tests for enforcement purposes, EPA should also use a static test.

Private Citizen Comments

Bradfort Sturtevant states that the J331a test is preferred to the more complex F-76a test and that motorcycles with automatic transmissions will be difficult to test.

Response:

The pass-by test required by the Agency to demonstrate compliance with the regulation is based on typical motorcycle accelerations, as such it is a good indicator of community noise impact resulting from motorcycle operations. However, the performance of a pass-by test is generally expensive and time consuming. As a result of the comments received and in order to reduce the testing burden of a pass-by test requirement and enhance the State and local enforcement efforts, the Agency undertook a comprehensive reevaluation of the testing schemes proposed in the regulation and mentioned in the supporting background documents. The goal of this reevaluation was to determine if there existed or could be developed a simple stationary test which correlated with the proposed pass-by test that could be used as a compliance test and/or enforcement test. The results of this reevaluation were encouraging, but the instrumentation for this test procedure required further refinement to be useful to small replacement exhaust system manufacturers and to State and local enforcement efforts. In addition, several the motorcycles in the test program were not compatible with the instrumentation for this procedure. Therefore, until such time as these problems can be resolved the use of the pass-by test procedure to demonstrate compliance will be required.

It was also determined during this evaluation to eliminate the proposed F50 stationary testing requirement for both original equipment and aftermarket manufacturers. This requirement has been deleted since public comments indicated and subsequent further analysis has shown that the results of the stationary test are not adequately correlatable to the required pass-by test used to determine compliance with the regulation, and therefore would not be suitable for an enforcement and compliance program.

Section 205.154 of the motorcycle regulation allows manufacturers to certify their products using a test procedure different than the F76b procedure, if they can demonstrate that the procedure which they use correlates with the F76b test. The Agency encourages further work toward the development of a suitable short test by manufacturers or manufacturer associations. The Agency would consider adopting such a short test procedure in the future, in addition to or in lieu of the pass-by test procedure for motorcycles and replacement exhaust systems, if adequate correlation can be demonstrated and the test is compatible with all types of motorcycles.

EPA believes that the proposed pass-by test is not overly complex than test procedures such as J331a, is essential to ensure that the test procedure is both accurate and equitable to those who must comply with the regulation.

The procedure results in many off-road motorcycles being tested in third, and even fourth gear. Even in these higher gears, many off-road motorcycles may exhibit front wheel lift-off under rapid throttle opening. However, the procedure specifically requires that the throttle opening be controlled to avoid excessive wheel slip on lift-off. Lift-off, however, is not hazardous with these vehicles when operated by an experienced rider; it is, in fact, a normal operational mode, used widely in the traverse of obstacles in rough terrain.

Tests conducted in the course of this study show that procedures which call for attainment of a specified condition of power and rpm at a specified location in relation to the microphone are relatively insensitive to gear selection. The relative insensitivity to gear selection in the test shows that a change in sprocket ratio will have little effect on measured noise levels.

Concern was raised over the repeatability of the pass-by test procedure as specified by the rate of throttle opening. The requirement is only that the throttle be wide open when the vehicle reaches the closing rpm specified in the test procedure. Therefore, the noise measurement is unaffected by how rapidly the throttle is opened. The repeatability of this test has been shown to be at least as good as that being demonstrated by the use of the SAE J331a test. Therefore, repeatability is not expected to be a problem.

Concern was expressed that the test procedure proposed did not adequately reflect motorcycle operations. In constant speed and accelerating modes, the smaller motorcycle will usually be operated closer to their maximum potential than will larger motorcycles. This is not only because of available horsepower, but also, in the small machines characteristically the torque curve is steep, favoring operation at high rpm, whereas in the large street motorcycles (675 cc and greater) the torque curve is relatively flat, resulting in acceptable performance at lower rpm's. This concept was the basis from which the test was developed, and has been verified by observations of motorcycle operations.

Concern was expressed that compliance with this regulation would degrade the progress that has been made in quieting motorcycles on a State and local level. This in fact will not be the case. Compliance with this regulation will in actuality enhance State and local efforts in noise control. This will be accomplished by the labeling and anti-tampering provisions incorporated into the regulation. The issue of State and local enforcement programs is discussed in section 4.3.

Motorcycles with automatic transmissions are more difficult to test than those equipped with manual transmissions. Care must be exercised during testing that the motorcycle does not shift while in the test area. The shift point can be determined by a few runs prior to testing to avoid the automatic shifting in the test area. The J331a test does not have any provisions for testing motorcycles with automatic transmission, whereas the F76b test does make provisions for motorcycles equipped with automatic transmissions.

State and local authorities have expressed concern over possible safety hazards of the pass-by test. The use of a pass-by test, which having some risk, does not pose a significant safety hazard. Manufacturers have been testing using the SAE J331A test, a pass-by test, and are familiar with the ramifications of such a test. The use of the F76b will not introduce any additional safety risks, beyond those encountered now with the SAE J331a test. To further reduce this liability the tests should only be performed by an experienced rider and therefore, is not recommended for State and local enforcement programs.

The CHP requested provisions be included for a deceleration test when deceleration proves to be a problem. We do not anticipate deceleration noise to be a salient problem when motorcycles and exhaust systems are in compliance with these rules. Therefore, no provisions for a deceleration test have been made at this time.

4.2 REPLACEMENT EXHAUST SYSTEM COMPLIANCE TESTING

Issue: Can the procedure for testing replacement exhaust systems be simplified?

Comments:

Aftermarket Manufacturers' Comments

Gemini Tube Fabrications stated that, "The aftermarket manufacturer can use the stationary test for certification if the replacement system meets the OEM exhaust system stationary test level. However, the certified OEM system, using the acceleration test procedures, will most likely be well below Federal standards. Therefore, the aftermarket replacement system would be certifying by the use of the stationary test to a dB(A) level that would correlate with the lower OEM sound level rather than the Federal standard.

"For the aftermarket manufacturer to design and manufacture to this OEM lower sound level would be costly on both an equipment requirement and a production basis. Consequently, in most cases, the aftermarket manufacturer will attempt to design to meet EPA standards. The EPA standards, however, are defined 'in terms of total vehicle noise as measured according to EPA's acceleration test procedure.' To verify to EPA standards, the proposed acceleration procedures (fly-by test) must be used to demonstrate compliance. The procedure is costly for the small manufacturer who normally does not have such a facility to perform this testing."

EPA needs to incorporate a simple stationary test which can be used by manufacturers and enforcement personnel. Therefore, Gemini proposed using the 20-inch stationary test. This test will also reduce costs, which are especially crucial to the aftermarket industry if it is to survive with these regulations.

Jardine Header favored the use of the MIC/E-76 test for aftermarket certification and recommended the use of a Type 2 sound level meter as an option for aftermarket exhaust certification.

Kendrick Engineering reported that they prefer the MIC half-meter test since it provides good correlation and expressed concern over the safety risks associated with the acceleration tests.

Dunstall Power preferred an acceleration test similar to 1048/Article 10. This test procedure, accelerating from 30mph at full throttle, accurately reflects the circumstances under which noise pollution normally occurs. However, Dunstall Power was against the use of any stationary test procedure because running a motorcycle in a stationary condition at a set proportion of maximum rpm bears no direct relation to the noise, excessive or otherwise, that the motorcycle may make when it is under load.

MCM Manufacturing and RC Engineering both favored the use of the MIC 20-inch stationary test. Both of these firms also stated that problems exist with ignition disabling testing. MCM Manufacturing suggested the possibility of having the motorcycle manufacturers provide connections which would allow for a simple plug arrangement without special wiring.

RC Engineering commented that problems will develop with workmen's compensation and liability when the acceleration test is used.

MCM Manufacturing further pointed out that safety problems exist when testing dirt bikes with nobbed wheels which can cause the bike to "stand-up" on pavement.

RJS Engineering recommended correlating data to a fixed noise test rather than an acceleration test. However, Nelson Industries commented that the problem of correlating stationary test results to acceleration test results has been given extensive study with little success.

Nelson Industries found it difficult to understand the role of the stationary test since the acceleration procedures would be the governing procedure. "The muffler supplier will have to test and design to the acceleration procedure since this procedure will control and since correlation between stationary tests and acceleration tests is not good."

Hooker Industries commented that the test procedure specified by the simulated F76a appears to show great promise for establishing a static test which correlates with the F76a moving vehicle tests.

Alphabets Custom West supported the 83 dB level static test developed by the MIC.

Alphabet Custom West, Gemini Tube Fabrications, Jardine Header, Kendrick Engineering, and MCM Manufacturing all reported that it is difficult for the aftermarket firms to obtain motorcycles to conduct the acceleration test. Jardine Header and Gemini Tube Fabrications reported that it is logistically difficult to obtain the test facility and the costs of purchasing acceleration test time is high.

Motorcycle Trade Association Comments

The Specialty Equipment Manufacturers' Association prefers the use of a stationary test for determining exhaust system noise.

For replacement exhaust system certification, the 20-inch stationary test method is endorsed by MIC. This will reduce the testing and financial burden on the aftermarket industry. This test method will also eliminate the possibility of certifying by the acceleration test and possibly failing the product by the stationary method.

Motorcycle Interest Groups

Road Rider Magazine believes that the stationary test proposed by MIC would enable aftermarket manufacturers to compete in the market place.

Response:

A review of the comments indicated that although the pass by test was not required for certification of replacement exhaust systems, many manufacturers would need to use this test since it is the governing procedure and noise levels between it and the F50 stationary test do not correlate well.

As discussed in the previous section the pass by test will now be required to be performed by replacement exhaust system manufacturers to demonstrate compliance with the regulation.

The provisions in the regulation for allowing aftermarket manufacturers to certify replacement exhaust system using the F50 stationary test has been removed. This provision was eliminated since the results of stationary test were not correlatable with the pass-by test used to demonstrate compliance with the regulation. Many of the aftermarket manufacturers indicated that it would be necessary to test under the pass-by test procedure anyway. The estimated difference in cost, on a yearly basis, to a large aftermarket manufacturer of using the pass-by test versus a stationary test for R&D and compliance testing is $2800 and $1200 respectively (estimated costs are for the 80 dB requirement). This in turn translates in to a differential price increase of 0.9% and 2.0% for large and small aftermarket manufacturers respectively.

A provision has been added to the replacement exhaust system requirement which will allow manufacturers to certify their product using a different test procedure than that proposed, if they can demonstrate that the procedure which they use correlates with the F76b test. This is the same provision which is incorporated into the motorcycle regulation. The inclusion of this provision will allow the development of a suitable stationary test by manufacturers or manufacturer associations which may see potential cost savings in doing so.

Concern was also raised by replacement exhaust system manufacturers over possible safety hazards and repeatability of the pass by test procedures. The use of a pass by test, while having some risk, does not pose a significant safety hazard. Manufacturers have been testing, using the SAE J331a test, a pass by test procedure, for some time and are familiar with the ramification of such a test. The use of the F76b, will not introduce any additional safety risks, beyond those encountered now with the SAE J331a test. The repeatability of the F76b test has been shown to at least be as good as that being demonstrated by the use of the SAE J331a test. Therefore, repeatability is not expected to be a problem.

4.3 STATIONARY SOUND LEVEL TESTING

Issue: What is the best program for state and local enforcement purposes?

Comments:

Manufacturers' Comments

Harley-Davidson submitted several possible stationary test schemes using a variety of motorcycle models which showed good correlation with the F76a test. Harley-Davidson found that the Federal stationary test correlated poorly with F76a. Harley-Davidson stated that the stationary sound test needs to correlate well with any pass-by test or difficulties will develop with in-use enforcement.

Basically, Suzuki found the stationary test to be far simpler and less expensive than the acceleration test. Further, the stationary test facilitates in-use enforcement. Suzuki also does not foresee any difficulties in performing 30 stationary sound level tests per day. The stationary test is sufficiently related to off-road motorcycle sound levels to control excessively noisy motorcycles.

Suzuki does recommend against the use of ignition disabling enforcement testing. First of all, compared to the 1/2 meter test, it requires a larger test site and large test sites are hard to find. Second, compared to the 1/2 meter test, the disabling test is far more complicated and subject to failure.

Further, the 1/2 meter test will allow for the continued use of existing tachometers. Auto-meter tachometers are extremely unreliable. Third, even if ignition-disabling equipment is made more reliable, field personnel may not be capable of using the equipment properly. Experience has proven that even with the simple 1/2 meter test, it is difficult to train individuals to be proficient at performing the test. This problem could be greatly exaggerated if enforcement personnel are not properly and thoroughly trained. Inconsistency and inequities will develop with in-use enforcement. Fourth, until uniform equipment standards are adopted for ignition-disabling equipment, it is premature to adopt this concept for enforcement.

The McDonnell Douglas testing which used the ignition disabling testing reported a very high correlation between the simulated F76a test and the moving F76a test, yet it did not provide any data to substantiate this conclusion.

In addition, Suzuki does not think it is possible to develop a method where a signal which gives accurate rpm information can be obtained on some models. In summary, Suzuki favors the 1/2 meter test since it is far easier to use and understand and will be suitable for enforcement since it is equally as effective as the ignition-disabling test in detecting excessively noisy motorcycles. The 1/2 meter test will also present cost savings, simplify replacement exhaust system testing procedure, and will present a test procedure which matches the certification test procedure.

Yamaha commented that the microphone location designation should be modified so that it is at an angle of 45° ± 10° with the "direction of the gas flow" in lieu of "line of travel." Yamaha believes that this will avoid potential microphone malfunction which may be caused by the proposed methodology. Harley-Davidson also commented that the position of the microphone needs to be more precisely defined.

Kawasaki commented that, "Effective enforcement will require a quick, easily performed noise test that is capable of discriminating against motorcycles that have been modified in such a way as to significantly increase their noise level. For this purpose it is not overly critical that the enforcement test have a direct correlation to the acceleration test used for new vehicle certification. Kawasaki believes that the ISO stationary test, the MIC/E-76 stationary test, and EPA's Appendix 1-2 stationary test all provide sufficient discrimination of noisy exhaust, with roughly equivalent ease of performance. The ISO standard does offer the advantage of international standardization.

"When use of a stationary test actually becomes reality for local enforcement, it will most likely be used to identify those controlled motorcycles which are significantly louder than their manufactured level. The proposal offered by the MIC, involving calculation of a stationary equivalent to the regulatory level, and providing this level on a label on the vehicle could provide a single stationary level for each model which would apply equally to OEM, aftermarket, or owner modified exhausts. Kawasaki wholeheartedly urges EPA to consider the MIC's mathematical regression stationary sound level equivalent proposal. Kawasaki does not believe it is necessary to obtain an absolute correlation between a stationary and an acceleration procedure in order to have effective enforcement against increased exhaust noise. MIC proposal would allow the use of the simplest test (no ignition disable devices, etc.) with a single enforcement limit per model."

State and Local Government Comments

As proposed by EPA, the stationary test has some problems according to the Oregon DEQ, and EPA should adopt the 20-inch stationary test since it works well and is preferred by police agencies. The California Office of Noise Control stated that problems exist with the California stationary test as it does not correlate with the California Highway Patrol procedure or the J331a method. More study on stationary tests are needed. The San Francisco Police Department Noise Enforcement team believes stationary tests are no good since people can cheat with them.

The Florida Department of Environmental Regulation recommended that the test site clearance requirement for the stationary noise test procedure be changed from five meters to three meters since this allows for easier field enforcement and is the current method of operation in California and Florida.

Trade Associations Comments

"AESMC agrees with the EPA rationale for establishing a stationary vehicle sound level test procedure for state and local enforcement activities. The Technical Committee of AESMC established a stationary sound level measurement procedure in early 1972. This stationary procedure, with rather simple adjustments in microphone distance and sound level, is the basic procedure now in use in the States of California and Florida and other jurisdictions. The major concern with the AESMC stationary procedure expressed by various state agencies and officials was that the stationary procedure result did not correlate directly with the SAE-type acceleration procedure results. AESMC felt then, as now, that a direct relationship was not necessary and that a practical correlation did exist although there would also exist a chance for some overlapping between the two test results: some good exhaust systems would fail and some bad exhaust systems would pass; however, the stationary procedure would successfully screen out the gross offenders. AESMC notes, however, the high degree of correlation between this rationale and that expressed by the agency in the proposals' discussion of stationary versus acceleration-type measurement procedures."

Dealer/Distributor Comments

The Wisconsin Motorcycle Dealers' Association suggested establishing a stationary test with a given percentage of rpm to facilitate enforcement efforts.

Motorcycle Interest Group Comments

The AMA and the AMA Great Plains District 33 recommended that EPA adopt a close range static test. It is the experience of the AMA that at a distance as close as twenty inches, tests can be administered which are simple, effective, and correlate well.

Road Rider Magazine stated that "a reliable stationary test, as proposed by the MIC, would permit better enforcement as well as enable aftermarket manufacturers to compete in the market place."

Response:

State and local governments, under subsection 6(e)(b), retain authority to control products by all other available means. This subsection states that nothing in this section precludes or denies the rights of State or local governments to establish and enforce controls on environmental noise and sources therof through the licensing, regulation, or restriction of the use, operation or movement of any product or combination of products.

Thus, although a local government may not enforce a non-identical local law regarding the noise level of an EPA-regulated new product which affects the manufacture or sale of such product, the local government may regulate the product noise impact through regulations enforceable against the owner or operator of the product by providing, for example, maximum noise levels for operation, curfews on operation, prohibition of use in a residential neighborhood or hospital zone, or requirements for periodic inspection and licensing of the product.

There are essentially three approaches that State and local governments can use to address a motor vehicle noise problem:

One approach is the street noise standard. This usually consists of a not-to-exceed level measured at curb side or some specified distance from the roadway. The specific not-to-exceed level may be different for various roadway situations. For example, in several states on streets with speed limits less than 35 mph, it is illegal for a motorcycle to exceed one specified noise level, and on streets with speed limits greater than 35 mph, it is illegal for a motorcycle to exceed a different and higher specified noise level. Some jurisdictions differentiate between streets with less than 1% grade and streets with more than 1% grade with regard to allowable noise levels. As provided the fundamental difference between this type of standard and a stationary standard is that the way a motorcyclist operates his motorcycle (i.e., whether he accelerates rapidly or slowly) strongly affects the street level measurement. By contrast, the stationary standard is an equipment standard as opposed to an environment standard and is unaffected by whether a particular motorcyclist may be more aggressive or less aggressive in operating his motorcycle than the norm. Thus, it is possible for a person with a very loud modified motorcycle to operate his motorcycle in such a way as to pass the street standard even though he would certainly fail a stationary test. Likewise, it is possible for a complying motorcycle to be operated so aggressively as to violate a reasonably stringent street standard.

A second approach available to State and local jurisdictions is to adopt and enforce the Federal labeling and anti-tampering provisions provided by the final regulations. For example, competition exhaust systems are required to be labeled as illegal for uses other than sanctioned competition events; all other exhaust systems intended for regulated or unregulated motorcycles must be labeled as such. State and local jurisdictions will thereby have a means of keeping the competition type exhaust systems off the street and out of noncompetition events in off-road riding, and of keeping unregulated exhaust systems off of the quieter regulated motorcycles.

The third approach is the in-use equipment standard, be it a stationary test standard or a pass-by test standard. The pass-by test established by this regulation is intended for use by manufacturers. Because of its complexity and expense, it is not generally suitable for State and local enforcement purposes. The simple stationary tests usually offer such a poor correlation that they would seem to be highly ineffective in actual use.

4.4 TACHOMETERS

Issue: With the wide range of variability and reliability of tachometers, can the proposed testing procedures be considered valid?

Comments:

Manufacturers' Comments

According to Harley-Davidson, tachometers may measure the true average rpm or the instantaneous angular velocity or something "in-between." While rpm represents the revolutions over a period of time, the angular velocity is an instantaneous measurement at some point in time. The two can be different and will affect the sound measurements recorded in any testing. "An ignition cutout device sensitized to angular velocity will cutout on peak angular velocity within an engine cycle rather than when the engine reaches the true rpm. Engines with poorer speed regulation would tend to cut out early, since peak angular velocity is always higher than average rpm. An engine with [an] unbalanced firing pattern (Harley-Davidson) would also tend to cut-out early. This problem can be minimized by damping the system, but this slows the response time; an important consideration in stationary acceleration tests." Problems also develop when use is made of digital circuitry or pulse counter-type tachometers.

Harley-Davidson also reports that there are problems associated with the auto-meter tachometer. However, the Electro-Tach may prove feasible since it is not subject to vibrations, shock, mounting orientation, and ignition noise. Reset is also automatic.

Trade Association Comments

ANCMA and BPICM both commented that tachometers sophisticated enough to be accurate within three percent are too expensive. A tolerance of five percent is therefore supported.

Response:

The wide range of variability with tachometers does pose a minor but solvable problem with testing motorcycles. Those tachometers which do not have a steady state of accuracy of within three percent of actual engine speeds between 50 percent and 100 percent of peak power rpm cannot be used. In such cases an external tachometer will be required to test the motorcycle noise emissions. The vehicle tachometer can be used if it meets the steady state accuracy criteria discussed in the test procedure methodology.

The expense of obtaining an accurate tachometer for testing purposes is not considered to be overly high. Relative to other testing costs, only a small one time capital outlay is required to purchase a tachometer.

Federal enforcement personnel will utilize a separate accurate tachometer so that consistency can be maintained while testing different motorcycles and to decrease the uncertainty as to which motorcycles have less accurate tachometers.

4.5 MICROPHONE WINDSCREEN

Issue: Is a microphone windscreen needed to assure accurate measurement while testing?

Comments:

Private Citizen Comments

Mr. Ralph Hillquist, P.E. stated that "some test work conducted on a small sampling of windscreens has shown that the insertion gain of typical units can easily exceed the broader tolerances of the SAE documents. Consequently, the requirements within the proposed regulations for windscreen performance will mandate individual calibration and selection of acceptable units, obviously resulting in added test expense. And the question of windscreen degradation with time and handling has not been satisfactorily addressed thus, the windscreen requirement should be deleted from the procedures of Appendix I-1 (a) and I-1(b)."

Response:

Microphone windscreens have no detrimental effect on the testing procedures and are preferred by many for reasons of microphone protection. As such, EPA will retain the windscreens in the testing procedure.

5. LABELING

5.1 SIMPLICITY OF LABEL

Issue: Is it necessary for the label to contain so much information?

Comments:

Manufacturers' Comments

Kawasaki contests the need to put the model year on the label and states that the identification of the manufacturer, date of manufacture, and model year are already on the EPA air emission labels. Items such as corporate trademark serve no purpose and a separate noise label on all street bikes is unnecessary. Kawasaki contends that the Stationary Sound Level information is the only information needed and urges EPA to recognize that space limitations make it important to avoid requiring excessively wordy labels.

Suzuki "recommends that the proposed labeling requirements be simplified extensively. The motorcycle exhaust system need only be labeled with the manufacturer's name or unique trademark, the exhaust system model number, and the EPA symbol. Other marking requirements would be superfluous, and hence, unnecessarily costly. Month and year of manufacture is a particularly burdensome requirement. Likewise, the motorcycle itself need only be labeled as complying with EPA regulations and warning the owner about tampering prohibitions."

Aftermarket Manufacturers' Comments

Alphabets Custom West was concerned about the amount of information designed to be on the label, especially the listing of applicable models which exhaust systems might fit. Alphabets also suggests putting the law in a catalog or instruction booklet rather than on the label.

Pre-1982 labels should state "not to be used on any motorcycle in production after 1982." For those mufflers designed for post-1982 use, Alphabets Custom West would prefer a label that contains a number corresponding to the test data reported to EPA and the wording "EPA Approved."

Dunstall Power recommended that the labeling requirements be similar to a system used in France. French authorities test and approve products and issue Homoligation numbers which are cataloged for enforcement officers. Dunstall deals in the international market as well as the domestic market and would like to see labeling kept simple so that it would be possible to label all products in the same manner and not incur higher inventory costs.

Trade Association Comments

MTA states that the labeling is too wordy and should contain the following: makers name, part number, and the statement "Certified to U. S. EPA Regulations." Anti-tampering guidelines and other information can be given on a separate sheet to customers. "Catalog entries could also properly link part numbers and motorcycle models."

"Stationary sound level labeling would require motorcycle and replacement exhaust system manufacturers to determine the noise level of each motorcycle using a stationary test procedure. [The APAA] rejects this proposal on the basis that it would reduce industry's ability to effect cost-savings through parts consolidation. The consolidation practices currently used in the automotive trade allow one design to be used on several different applications. The accepted practice reduces the costs of production, cataloging, and additional engineering, while not increasing the dB level any more than does the use of one muffler design on several different automobiles during production.

Dealer/Distribution Comments

The Pennsylvania, Texas, and Ohio Motorcycle Dealers' Associations support the concept of labeling which can be used to inform the customers of the law and discourage the sale of illegally loud exhaust systems.

The Pennsylvania Motorcycle Dealers' Association contends, however, that the model year should not be included on the label. Requiring the model year will create inventory problems with existing mufflers when new model year motorcycles are introduced.

State and Local Government Comments

The Illinois Environmental Protection Agency, the San Francisco Policy Department's Noise Enforcement Team, the Hillsborough County Environmental Protection Commission, the California Highway Patrol, the Florida Department of Environmental Regulation, and the City of Jacksonville, Florida are all on record as supporting EPA's proposed labeling procedure, because they will facilitate enforcement, alert the public, help control sales people and spur industry competition. The Illinois EPA also suggests putting a warning about potential hearing loss on the labels.

Public Interest Group Comments

The American Association of Retired Persons and the National Retired Teachers' Association supports labeling because it will facilitate local enforcement.

Response:

Since EPA has eliminated the requirement for motorcycle manufacturers to conduct F50 stationary tests in the final rule, motorcycle manufacturers and exhaust system manufacturers will not be required to include stationary sound level information on the label. To respond to comments that the proposed label needed to be simplified, the Agency also substantially condensed the label wording.

The final rule will require motorcycle manufacturers to label their motorcycles with a compliance statement which will include the following information: model year, model specific code, serial number, the applicable noise emission standard, the motorcycle's closing rpm, and a tampering warning. The model specific code will be a simplified system for designating the motorcycle manufacturer, motorcycle class, and advertised engine displacement respectively. The code will be limited to ten spaces which will include three spaces for the manufacturer's abbreviation, three spaces for the class identification, and four spaces for the advertised engine displacement. The three letter manufacturer abbreviation will be assigned by the Agency. A list of such abbreviations is included in the labeling section of the regulation.

The Agency will also allow motorcycle manufacturers to consolidate the labeling requirements of this regulation with the labeling requirements of other governmental agencies on one or more labels provided the labeling provisions of this regulation are met.

Original equipment and replacement exhaust system manufacturers will be required to label their products with a compliance statement which will include the following information: the manufacturer's name, product serial number, the applicable noise emission standard, and a list of model specific codes for motorcycles that the exhaust system is designed to fit. The model specific code on the label of any exhaust system that is installed on a Federally regulated motorcycle must be identical to the model specific code on the label attached to that motorcycle. This labeling scheme provides a way for federal, state, and local enforcement officials to determine whether the correct exhaust system has been installed.

The Agency evaluated other suggested labeling schemes such as Homoligation numbers and cataloging, but believes the present labeling scheme is the most feasible.

5.2 PRE-1982 PRODUCT LABELING

Issue: Will the labeling requirements for replacement exhaust systems designed for use on pre-1983 motorcycles prove burdensome?

Comments:

Trade Association Comments

The MIC contends that labeling of exhaust systems intended for unregulated motorcycles should not be required until the effective date of the initial noise emission standard.

ANCMA proposes the following words: "For use on vehicles produced before December 31, 1981," for exhaust systems designed to be used on motorcycles manufactured before January 1, 1982. ANCMA also believes that it is necessary to fix a reasonable delay time in order to allow manufacturers to sell out all existing parts built for motorcycles made prior to the regulation.

The Specialty Equipment Manufacturers' Association stated that only exhaust systems for non-regulated motorcycles produced after the effective date of the regulation should be required to be labeled. Replacement exhaust systems manufactured prior to the effective date would already be in the distribution system.

Response:

EPA has changed the applicability section of the motorcycle regulation so that the labeling of replacement exhaust systems designed for use on pre-1983 motorcycles will be required for those exhaust systems manufactured after the effective date of the first noise emission standard, January 1, 1983. The proposed regulation required that such exhaust systems be labeled effective on the publication date of the final rule in the Federal Register, although replacement exhaust systems manufactured prior to that date would already be in the distribution system. With the effective date changed to January 1, 1983 exhaust system manufacturers and dealers should have more lead time to deplete most of their present inventory of unlabeled replacement exhaust systems.

5.3 EXHAUST SYSTEM LABEL OBSOLESCENCE

Issue: Can the requirements for information on the exhaust system label be changed to eliminate arbitrary obsolescence on future motorcycles even though the exhaust systems may fit and still comply with the noise emission standards?

Comments:

Manufacturers' Comments

Kawasaki and Yamaha stated that, under EPA's proposal, completely identical exhaust systems from two model years can not be interchanged. Yamaha suggests a labeling scheme where the label for the muffler would contain a simple certified number to match a control number on the motorcycle. Kawasaki suggested that a code, which the muffler and motorcycle would have to match, be placed on the labels rather than the model year. Suzuki objects to the requirements for including the model year on the exhaust system label since the muffler could be used for several years.

Aftermarket Manufacturers' Comments

Kendrick Engineering, MCM Manufacturing, Jardine Header, Hooker Industries, and Gemini Tube Fabrication all expressed concern that the labeling requirement for including model year will build in obsolescence and the cost of replacing the labels would be excessively burdensome. Storage and inventory costs will also be high.

Hooker Industries and Jardine Header suggest using the manufacturer's catalog to label exhaust systems by using codes matching the manufacturer's name and identification number. These catalogs could also contain information regarding the exhaust system's applicability with Federal law.

Gemini Tube Fabrications suggests an approach which would label each exhaust system with a model number and specify product compliance through the product verification report process.

Nelson Industries commented that "a superior approach would be to develop a procedure for determining the effectiveness of the exhaust system required in terms of the exhaust noise contribution on the motorcycle. Replacement exhaust systems would then be required to meet this performance level and could be used on any past, present, or future motorcycles requiring that degree of silencing." The proposed regulation regulates the exhaust system "in terms of the motorcycle noise which is produced with that exhaust system. This is inappropriate for a number of reasons:

> "1) From a technical point of view, it is a very insensitive measure of exhaust system effectiveness. The exhaust noise contribution of modern motorcycles is often only a relatively small portion of the total noise. Thus, large changes in exhaust system effectiveness will have only (a) small effect on the overall motorcycle noise.
>
> "2) In addition, small changes in other sources on the motorcycle may offset significant changes in exhaust noise. Thus, evaluation of exhaust system effectiveness will be very imprecise and dependent on other sources remaining constant."

This would eliminate the problem of relabeling exhaust systems for use on motorcycles brought out in suceeding years that have only changed slightly or not at all.

Maremont Research and Engineering, a manufacturer of automotive exhaust systems, expressed concern for exhaust system obsolescence. Maremont mentioned the difficulties which will develop when muffler numbers have to be revised each year for new models. Inventory problems will intensify.

Trade Association Comments

AESMC and MIC expressed concern for identical mufflers which can not be used on different model years solely because they have different dates labeled on them.

MIC states that "labeling of replacement systems with model designations of their own and specifying certification compliance by written submission to EPA would eliminate costly stock obsolescence or the inefficient and possibly inaccurate relabeling of inventories."

ANCMA suggests that the "exhaust system should be marked with vehicle manufacturer identification mark, and a reference number, which identifies the specific exhaust system. The same number shall be reproduced on the vehicle label. In the case of non-original exhaust systems, the words 'Not Original' and the name or identification mark of the exhaust system manufacturer should be added to the reference number."

Response:

EPA agrees that the proposed labeling requirements could have caused some exhaust systems to become obsolete for use on future motorcycle models. The Agency carefully considered all the comments; and as a result, the model year requirement in the labeling provisions for exhaust systems has been eliminated in the final rule. However, the Agency is requiring in the final rule that exhaust system manufacturers include on the label the noise emission standard of the motorcycle that the exhaust system is designed to fit. By identifying both the applicable noise emission standard and the motorcycle model on the label, the Agency does not believe identification of the model year is necessary.

Therefore, this labeling scheme will make it possible for earlier designed exhaust systems to be installed on future motorcycle models provided that they do not cause those motorcycles to exceed Federal noise emission standards.

5.4 STATIONARY SOUND LEVEL LABELING REQUIREMENTS

Issue: Will the stationary sound level labeling procedures require assembly-line shutdowns?

Comments:

Manufacturers' Comments

Suzuki commented that the Stationary Sound Level (SSL) labeling requirement will result in assembly line shut-down for periods of time so that labels can be ordered with the SSL for that production run. Suzuki believes that SSL information can be most effectively reported and disseminated in writing. Harley-Davidson concurs with Suzuki and states that the production scheduling and storage problems created while labels are being ordered is untenable.

Response:

EPA has eliminated the requirement for motorcycle manufacturers to conduct F50 stationary tests in the final rule and as a result motorcycle manufacturers and exhaust system manufacturers will not be required to include stationary sound level information on the label.

5.5 PLACEMENT OF LABEL

Issue: Can labels always be placed in readily-visible positions?

Comments:

Trade Association Comments

ANCMA contends that in many cases, particularly for mopeds, scooters, and off-road vehicles, it will be impossible to locate the label so that it is directly visible.

Response:

EPA does not foresee any problem with placing labels in a readily-visible position. The motorcycle exhaust system is sufficiently large to maintain a label the necessary size to meet the wording requirements in the regulation. Where the exhaust system is totally enclosed, the label should be placed on the exhaust system at the location that would be first visible when servicing or replacing the exhaust system.

Placement of the motorcycle label in such positions as on the forward frame supports or on the front forks would satisfy the label placement requirements if the label could be readily seen. Manufacturers can also meet the motorcycle label requirements by consolidating the label with other government labels provided that the label meets the labeling provisions of this regulation.

5.6 AESTHETIC CONSIDERATIONS

Issue: Will labels affect the aesthetic appearance of the motorcycle and its exhaust system?

Comments:

Manufacturers' Comments

Kawasaki stated that excessive labeling on the exhaust system should be avoided since it constitutes a major element of motorcycle styling.

Aftermarket Manufacturers' Comments

Jardine Header and Alphabets Custom West both fear the aesthetically destructive effect the labels would have on muffler design and consumer acceptance.

Trade Association Comments

ANCMA and BPICM contend that the amount of label information will make the labels incompatible with the sizes and forms of the majority of exhaust systems.

MIC states that the excessively wordy labeling exceeds a "practical and aesthetic threshold of consumer acceptability on a product as small and dependent on attractive styling as a motorcycle exhaust system."

Dealer/Distributor Comments

The Pennsylvania Motorcycle Dealers' Association stated that the labels required on the exhaust system should not distract from the styling of the product.

Response:

EPA believes that manufacturers can place labels in positions which will not adversely affect the aesthetic appearance of the motorcycle or exhaust system. The regulations do not specify the exact location of the label on motorcycles or exhaust systems, thus allowing manufacturers to use their judgment as to where the label can be placed without adversely affecting the appearance of their product. The regulations only require that the label be placed in a readily visible position. Since the label wording in the final rule has been condensed, the size of labels can be reduced. Thus, the labels should not be aesthetically difficult to design into the motorcycle or exhaust system.

6. ENFORCEMENT

6.1 STATUTORY AUTHORITY

Issue: What sections of the Noise Control Act provide authority for EPA's motorcycle regulations?

Comments:

Trade Association Comments

The MIC requested that EPA identify the statutory provision which supports each of the substantive sections of the proposed regulation. Specifically, the MIC stated that "The notice of proposed rulemaking indicates that 'these regulations are proposed under the authority of Sections 3, 6, 10, 11, 13, and 15 of the Noise Control Act ...', 43 Fed. Reg. 10840 (March 15, 1978). This generalized statement referring to all regulatory provisions of the Act is insufficient to clearly identify to all affected parties the specific provisions of the Act which support each of the substantive provisions of the regulation. This specific identification is required as a result of the 90-day review provision contained in Section 16(a) of the Act which is specifically limited to Sections 6, 8, 17, or 18 of the Act."

Response:

The commenter has referred specifically to the supplementary information provided along with the proposed rulemaking. This generalized statement is in addition to specific citations provided for each section of the regulation. After each section in the regulation, a specific cite is given in parentheses, identifying specific sections of the Noise Control Act from which EPA derives its authority. Where a sequential group of regulatory sections have identical citations, a single citation is provided following the last section in the group.

6.2 RECALL AND CEASE DISTRIBUTION PROVISIONS

Issue: Are EPA's recall and cease distribution provisions for motorcycle noise violations invalid, illegal, and in excess of Congressional intent?

Comments:

Manufacturers' Comments

Harley-Davidson contended that the recall provision was beyond Congressional intent and amounted to "overkill." EPA's authority is limited to cases where such action "is necessary to protect the public's health and welfare" and only following adjudicatory hearings conducted pursuant to the Administrative Procedure Act. The recall authority proposed under Section 205.163 ignores these important statutory restraints.

Harley-Davidson contended that the cease-to-distribute orders cannot be promulgated under Section 6 of the Noise Control Act and are beyond the intent of the Congress. Harley-Davidson further stated that the cease-to-distribute orders violate the safeguards built into Section 11. Yamaha and Harley-Davidson believe that the cease-to-distribute orders are overly broad.

Yamaha contended that the section providing for the recall of products is overly broad in light of the statutory authority cited for it. The enabling legislation by omission implicitly removes the ability to recall.

Suzuki commented that something is basically wrong with this program if manufacturers develop information for enforcement which EPA can use against them.

Trade Association Comments

The MIC, with Yamaha and Suzuki on record as supporting its comments, stated that "the provisions for recall of non-conforming motorcycles and motorcycle exhaust systems are unauthorized and contravene the spirit and substance of the provisions of the Noise Control Act and that EPA's proposed regulations authorizing issuance of cease-to-distribute orders are invalid."

Sections 205.163 and 205.174, which give the Administration broad and unlimited authority to recall, are not authorized nor necessary. Further, Congress specifically considered placing recall authority under Section 11(d)(1) of the Act and rejected it in committee. The United States Court of Appeals for the District of Columbia Circuit has pointed out in previous EPA cases, that the absence of language is meant to have significance. Ethyl Corp. v. EPA, 541 F. 2d 1, 22n, 41, 23, cert. denied 426 U.S. 941 (1976). On this basis, the MIC requests that Section 205.163 and Section 205.174 be deleted.

The MIC contended that the prohibition contained in Sections 205.157-10 and 205.168-11 are in direct violation of Section 11(d) of the Act. These sections and to some extent Section 205.174 "provide for virtually unlimited discretion on the part of the Administrator to issue orders requiring manufacturers to cease-to-distribute their products in the event of a violation of any one of the myriad of regulatory provisions. However, none of the regulations require a determination that issuance of a cease-to-distribute order is necessary to protect the public health and welfare.' Thus, the proposed regulations assert authority to issue cease-to-distribute orders even though the products themselves may fully comply with the prescribed maximum noise emission levels."

The MIC therefore believes that the cease-to-distribute orders are "punitive and coercive...and not rationally related to actual violations under the Act" and should be deleted.

Response:

The Administrator is given the authority to issue remedial orders under Section 11(d) of the Noise Control Act. These orders supplement the criminal and civil penalties of Section 11(a) and will be issued only after notice and opportunity for a hearing.

Recall and cease distribution orders are an example of remedial orders the Administrator could find appropriate in certain circumstances. Different circumstances may warrant remedial orders other than those described in the regulation. Examples of other remedial orders which may be required are requiring labels to be mounted or changed if they are found to be incorrect, requiring flyers be sent to customers hanging maintenance instructions, and requiring manufacturers to cover certain repair costs. The Administrator is given the authority to fashion remedial orders in such situations to protect the public health and welfare.

6.3 SELECTIVE ENFORCEMENT AUDITING

Issue: Is SEA a necessary enforcement tool?

Comments:

Manufacturers' Comment

Harley-Davidson commented that EPA should not be allowed to order a SEA unless there is reason to believe the manufacturer is not in compliance. Harley-Davidson saw potential for harassment and further charges that SEA is clearly inconsistent with Congressional intent and that SEA places heavy costs on the manufacturer.

Honda stated that SEA was not needed. The manufacturer by simply submitting the description of its internal quality control plan and data, would meet EPA needs. If necessary, EPA could verify the validity of the test by checking the manufacturer's records or by directly witnessing the quality control testing. When EPA uses the SEA inspection, it should review only the manufacturer's data which were used to determine the label values. Honda would also like to see SEA studied further before it is made mandatory. To Honda, there is sufficient incentive for manufacturers to have tight quality control.

Kawasaki charged that SEA was time consuming, expensive, and generally burdensome.

Suzuki recommended the deletion of SEA since it is extremely time consuming, expensive and unwarranted and it will only achieve minimal benefits. Further, Suzuki said that it would have difficulty running the required tests since it is currently using its test facilities to full capacity. Suzuki also believes that EPA has sufficient authority under Sections 205.159 and 205.170 to deal with any problems which may arise with new vehicles and new exhaust systems.

Yamaha commented tnat warrantless entry and inspection appears to fall within the proscription against unreasonable search and seizure pursuant to the Fourth Amendment of the U.S. Constitution.

The regulations promulgated by EPA appear to be deficient in two principle areas: "First, the regulations in the abstract give the Administrator unfettered discretion in the quantum of test orders which may be imposed upon a given manufacturer. A quantitative ceiling incorporated in the regulations would tend to remove same from the orbit of being unreasonable.

"Secondly, SEA's apparently can be ordered without any consideration as to cause. Constitutional considerations based upon reasonableness, equal treatment, and cause indicate that the Agency cannot arbitrarily order such tests without a rational basis."

Trade Association Comments

The MIC, with Yamaha and Suzuki on record as supporting its comments, charged that "the Administrator is without the statutory authority to promulgate regulations which permit warrantless searches of a manufacturer's facilities." The MIC objected to the entry and inspection provisions set forth in Section 205.4 of Subsection A, since neither statutory nor judicial support exists for such requirements.

"Particularly germane to the foregoing rule of administrative law is the fact that Section 555(c) of the Administrative Procedure Act specifically governs the Administrator's actions under the Noise Control Act and provides that:

> 'Process, requirement of a report, inspection or other investigative act or demand may not be issued, made, or enforced except as authorized by law. 5 U.S.C. 555(c) (1970)' (emphasis added)."

Congress did not delegate any authority to enter, search and inspect manufacturer's facilities under the Noise Control Act. Further, warrantless searches are in violation of the Fourth Amendment. This has been reaffirmed by the U.S. Supreme Court in Marshall v. Barlows, Inc., 46 U.S.L.W. 4483 (May 23, 1978).

The MIC further contended that "the proposed regulations regarding selective enforcement auditing and the acoustical assurance period as they are applied to motorcycle replacement exhaust systems have no rational basis and are not supported by the economic data prepared by the Agency."

EPA has not established "reasonable necessary requirements" to warrant the substantial economic impact on the aftermarket industry. "The failure to establish this reasonable necessary requirement has in the past been grounds for courts determining that an agency's regulation can not be upheld." Further, the AAP and SEA requirements on the aftermarket do not comply with the President's directive to eliminate needless regulations. The MIC therefore requested that a self-certification process be established for motorcycle manufacturers and aftermarket firms and that the SEA and AAP be deleted from the final regulations.

BPICM charged that SEA is at best, an expensive program and at worst, a totally useless one until more is known about it.

The Specialty Equipment Maufacturers' Association recommended that SEA be done on a single sampling scheme. Requiring a stationary test per day seems high.

Response:

The Selective Enforcement Audit scheme (Sections 205.160 and 205.171) was developed to provide EPA with an additional tool to assess a manufacturer's compliance during production, after he has verified compliance on an early production vehicle. It is designed to sample his production and allow EPA to determine with a high degree of confidence, if his production is within the required 10 percent acceptable Quality Level (AQL).

Because SEA is an oversight tool, its use will be primarily on manufacturers believed to be not in compliance with the standard. Evidence of this noncompliance may be unusually high production verification noise levels, noisy field surveillance test results or other knowledge of a manufacturer's improper compliance with the regulation.

SEA's may be used to spot-check manufacturers' compliance. They can be used to demonstrate that a manufacturer has been properly verifying his production or to display improper test work. The number of SEA's will be kept to a reasonable number and will not be used to harass a manufacturer or as a means of gathering unnecessary data.

The SEA sampling plan has been modified to allow for a more expeditious completion of each SEA. It uses a single batch sampling plan instead of the multiple batch plan used in earlier EPA noise emission regulations. EPA believes this change to be beneficial and less burdensome to all parties. The new plan does not place any additional risk of SEA failure on the manufacturer.

Regarding comments about EPA's right to warrantless search and inspection of manufacturers' facilities, the Agency has changed the regulation in accordance with the litigation judgement in the case of Marshall v. Barlows, 436 U.S. 307 (1978), in which these rights were limited. The changes to the regulations limit EPA's right to inspect the manufacturers' facilities only after obtaining the manufacturer's consent.

6.4 CERTIFICATION REQUIREMENTS

Issue: Is the certification process for the vehicle and muffler an unnecessary burden to the industry and EPA?

Comments:

Manufacturers' Comments

Harley-Davidson commented that the requirements for verification of the stationary level label are both unnecessary and statistically impossible. Harley-Davidson also stated that the use of ten percent AQL should be recognized as a means of effectively reducing the published noise standards.

Honda believed that the 10 percent AQL requirement is sufficiently stringent to assure compliance of all motorcycles with applicable standards.

Kawasaki understood and appreciated the necessity for pre-sale certification if the health and welfare risk of non-compliance is sufficiently large to warrant such action. However, Kawasaki did not view this as the case with the motorcycle noise regulation. The marginal benefits that might accrue are too small for the costs involved. The PV test is time consuming and expensive. In lieu of the elaborate PV, EPA should occasionally test at the retail level. Besides, the penalties which may be imposed under Section 10(a)(1) and Section 11(a) of the Noise Control Act provide substantial disincentive to prevent manufacturers from distributing noncomplying products.

Kawasaki also pointed out that voluntary compliance has been successful in California.

Suzuki contended that the compliance regulations are overly complex and will be difficult to enforce. EPA should concentrate on developing regulations which are not burdensome to the industry and should consider a self-compliance program similar to the National Highway Traffic Safety Administration. A self-compliance program would greatly cut down on the additional paperwork, which Suzuki estimates will run from 13 to 15 pages, that will be necessary to certify each motorcycle's noise emission level. Further, manufacturers can gain no benefit from under or over reporting the motorcycle's sound level and EPA should have a "mechanism for relieving manufacturers from liability in the event that they make an inconsequential mistake -- for example, in a reporting requirement."

Yamaha commented that the 10 percent AQL should be increased to 40 percent in order to save costs and to be consistent with the Agency's other regulatory schemes. Yamaha would also like to see the Agency conduct an informal workshop to investigate the possibility of combining portions of the air emission, safety, and noise regulations to ease costs and simplify the programs. Yamaha also recommended that manufacturers submit a copy of the test report for all testing conducted pursuant to Section 205.160 by airmail within 72 working hours after such testing is completed.

Aftermarket Manufacturers' Comments

Gemini Tube Fabrications and Hooker Industries were concerned over the burdensome costs associated with annual verification. Gemini Tube Fabrications recommended that once a system has demonstrated compliance, it should only have to be reverified if there is a design change. Hooker Industries thought that exhaust systems should be certified by groups. Reporting of the results should be done to EPA prior to product distribution but EPA approval should not be required before distribution.

Gemini Tube Fabrications reminded the Agency that it is dealing with small businesses that have limited resources. A streamlined simple approach should be takened. Annual certification is too burdensome and redundant.

RJS Engineering commented that the government should assume the costs of the compliance and certification processes.

Trade Association Comments

The MIC commented that the proposed certification tests and enforcement techniques will discourage most small domestic businesses from attempting to comply. "Greater consideration needs to be given to the cost and logistical burdens placed on the replacement exhaust system aftermarket manufacturers due to the proposed certification testing and administration requirements."

Dealer/Distributor Comments

The Wisconsin Motorcycle Dealers' Association recommended replacing the manufacturing-level vehicle certification and labeling program with an EPA spot-check system that would test new motorcycles offered for sale at the retail level. "Any model that did not meet the prescribed standard would be subject to recall, retrofit, and a freeze on further sales. This should be sufficient deterrent to encourage manufacturers to comply with noise emission standards. This approach, when preceded by the establishment of reasonable noise emission standards and simple noise measurement criteria, would be effective as the certification approach and much more cost efficient. The aftermarket industry could comply by certifying to the eventual consumer that their products meet the federal standards for specific models. Recall, retrofit and sales freeze penalties would apply equally to the aftermarket industry."

The present process of certification places an unreasonable burden on the industry and consumer.

Motorcycle Interest Group Comments

The Pennsylvania Trail Riders' Association commented that the labeling, testing, and reporting requirements are too cumbersome and inflationary.

Private Citizen Comments

Mr. Thomas L. Geers, Ph.D. also recommended testing products once they are on the market. If need be, they can be recalled if proven in non-compliance. This would eliminate the large amount of paperwork required with the compliance standards.

Response:

Production Verification (PV) is intended to force manufacturers to demonstrate compliance on early production motorcycles, before they are distributed in commerce. EPA does not consider the amount of required testing to be excessive, as motorcycle configurations can be grouped together into categories. EPA does not consider the reporting requirements burdensome, as Agency experience with other industries operating under EPA noise emission regulations has been favorable. PV is therefore retained in the regulation.

The Selective Enforcement Audit (SEA) procedure is to be used as an additional check on manufacturers, not as a verification of compliance at the point of original sale. Because it is used primarily as a means of spot-checking manufacturers' ability to comply, production verification is still necessary to assure systematic, organized reporting of compliance.

The Agency also intends to perform field surveillance testing as an additional check on manufacturers' compliance. This surveillance may be performed at retail stores or on motorcycles already in use, with consent of the owners.

The combination of PV, SEA, and field surveillance testing should provide an effective enforcement program with minimum burden to motorcycle manufacturers.

The Agency does not intend to use a self-compliance program of enforcement at this time. In future years, after the regulation has been effective for a number of reporting cycles, the reporting requirements may be reduced and the enforcement program modified to rely more on manufacturer self-compliance.

The Acceptable Quality Level (AQL) of 10 percent is consistent with other EPA noise regulations, (New Medium and Heavy Trucks (40 CFR Part 205, Subparts A and B), Truck-Mounted Solid Waste Compactors (40 CFR 205, Subparts A and F) and New Portable Air Compressors (40 CFR Part 204, Subparts A and B). The Agency has no plans to change the AQL to 40 percent.

The Agency considers other regulations, when it develops a noise standard. Air emission and safety regulations are examined and compared to the noise emissions regulation to minimize redundancy and waste. However, the Agency does not plan to attempt to combine all regulatory efforts into a single package. Greater efficiency results from EPA consultation with other Agencies rather than total integration of regulations.

Sections 205.160-5 and 205.171-7 require that reports of SEA testing be submitted within 24 hours of the conclusion of each 24 hour period. The Agency believes this rapid reporting time is necessary to properly monitor an SEA and the provision is retained as proposed.

A number of comments were received from moped and exhaust system manufacturers saying they will be inordinately burdened by the verification requirements. In response to these comments, the Agency has determined that it may be possible to grant a substantial amount of carry-over of production verification data, from year to year. This will reduce manufacturers' testing requirements substantially after the first year in which the regulations are effective. Mopeds and exhaust systems which comply with the standard and have not been modified between years would be most eligible for this carry-over.

6.5 STATIONARY SOUND LEVEL METHODOLOGY

Issue: Should the procedure for determining the stationary sound level value to be placed on the label be revised?

Manufacturers' Comments

Harley-Davidson commented that EPA should assume the role of developing a stationary test standard. However, if the current procedure is maintained, the statistics on the label should represent the 99th percentile of the class SSL. Harley-Davidson contended that the 90th percentile stationary sound level labeling statistic is unworkable and normal statistical distribution alone makes a valid 90th percentile determination unrealistic. Harley-Davidson contends that "labeling to the 99th percentile of the class average stationary sound level would provide a high degree of confidence that any vehicle exceeding that label value would have either been modified or deteriorated. Therefore, for an in-use label enforcement, Harley-Davidson proposes that EPA accept a label value equal to the mean of the stationary sound level + three times the standard deviation of the test population (x + 3). The manufacturer would determine this population mean and standard deviation in much the same manner as proposed in the regulations. Data would be supplied to EPA prior to introduction into commerce. Harley-Davidson feels that label verification as proposed in the NPRM is an unacceptable burden, especially in view of the fact that the manufacturer is developing the label for EPA to apply in other areas, such as in-use and aftermarket certification." "The means exists for the EPA to maintain control of the labeling process by exercise of the Selective Enforcement Audit procedure. However, the method of evaluating label compliance must be changed because of the demonstrated statistical problems with the scheme proposed in the NPRM. Harley-Davidson suggests that the label would comply if at least 10 percent of the vehicles tested during the SEA were within 1.0 dB of the mean noise level used to establish the label value (x ± 1.0 db.)."

Harley-Davidson believes that the "proposed scheme for labeling may well place the manufacturer in a questionable legal position. The implicit requirement is that some significant percentage of production must be produced in such a way as to fail a Federal stationary test. This failure will not only be detected by EPA on vehicles prior to delivery, but some failures will also be 'caught' by local enforcement authorities. It is certainly a questionable government practice to compel a manufacturer to produce a product intentionally designed to violate local laws. This requirement places the manufacturer in an untenable position, damages its reputation and may be illegal."

Suzuki recommended that the mean value plus three dB be used as the enforcement value. This corresponds roughly to the mean value plus 3 indicating about 99.9 percent of the motorcycles will pass the stationary test. This value can be used by enforcement officers as a pass/fail value. This will also reduce the need for testing a large number of motorcycles.

Current EPA requirements state that manufacturers should test at least 30 vehicles using the 90th percentile value. Suzuki believes similar results could be obtained at the 50th percentile, which would only require four vehicle tests, a reduction of seven times. The 30 vehicle limit will require assembly shutdowns during the time vehicles are to be tested and labels are to be ordered.

"Manufacturers cannot incorporate such a shutdown into the production process. For this reason, stationary sound levels values cannot be labeled on the vehicle and must be reported to EPA in writing." The levels can be included in the operator's manual which enforcement officials will use to test.

Further, Suzuki pointed out that the 90th percentile value may serve as a guide but it cannot be used as proof since by definition, 10 percent of the vehicles must exceed this level.

Yamaha commented that "The EPA proposal requires unreasonably high accuracy in the stationary sound level which is not correlatable with the acceleration test. In spite of this difficulty, EPA, according to Section 205.160-6(c), is able to reject same as being 'mislabeled' and/or in non-compliance. This situation places unreasonable complications upon the manufacturers.

"Yamaha would like to recommend the following: Stationary Sound Level Tolerance should be +5 dB(A) instead of the 90th percentile as in Section 205.160-2 'test sample selection.' The rationale for same is due to the inherent inaccuracies in the ANSI Type II Meter."

Honda "would like to propose to set the stationary sound level as described below."

"As a matter of course, the stationary sound levels of all motorcycles which have statistically been determined to be in compliance with the applicable moving test regulations should be regarded as proper, passing stationary sound levels."

"Also an allowance of up to 0.5 dB(A) is necessary because of variations in the degree of the accuracy of reproduction of steady engine speeds."

"On the other hand, stationary sound level increases due to tampering with the exhaust system, for which the stationary sound test is mainly designed, have been measured as follows for Honda motorcycles:

"Diffuser removed: +3 to +4 dB(A),
Elimination of the last silencer chamber: +6 to +7 dB(A),
Entire muffler removed: +20 to +25 dB(A)."

"In these respects, we (Honda) believe that a cut-point of the stationary sound level which should cover normal ranges of production noise variations, and measuring errors and yet effectively identify exhaust systems which have been tampered with may be defined as follows:

$$(x \pm 2.0 \quad + 3.0 \text{ dB(A)}$$

"The fact that the contribution of the exhaust system noise to the total acceleration noise is less than 40 percent based upon our test data minimizes the impact of noise caused by any exhaust system which would otherwise have been rejected under the acceleration test procedures."

State and Local Government Comments

The Oregon Department of Environmental Quality contended that the 90th percentile value stamped on the motorcycle frame is really an indication of the OEM exhaust system; thus, when the OEM exhaust system is replaced the value loses its usefulness. The Oregon DEQ recommended placing the 90th percentile value on replacement exhaust systems also.

The Orange County, California government was concerned over Section 205.160-2(b) which allows 10 percent of a test batch of motorcycles to exceed the label stationary noise values. Orange County contends that anti-tampering citations issued to motorcycle operators by state or local enforcement officers, could be easily contested in court. All a defendant would have to do is refer to the EPA regulation itself, which allows one out of every ten new motorcycles to exceed this stationary standard as it comes off the assembly line.

The National Association of Counties Research reported that the "quality control standard is too lax. If one in ten motorcycles does not meet the noise standard, the position of the enforcement officer is seriously weakened if not untenable."

Trade Association Comments

The Specialty Equipment Manufacturers' Association recommended "that the sound values put on the labels be selected at the 99th or 98 percentile level, rather than the 90th. This will reduce the possibility of local law enforcement agencies picking 'fudge factors' that are too low.

BPICM feel that "the provisions for SSL are out of place in view of the absence of proven data on the correlation between the various measurements which will have to be made."

ANCMA wonders whether the correlation existing on new vehicles between stationary and acceleration noise levels will exist on used vehicles.

Private Citizen Comments

Mr. David Wallis pointed out that "according to EPA's standard, approximately ten percent of all new motorcycles will exceed the stationary noise level on the label. It will be easy for law enforcement officials to interpret the labels as meaning that all motorcycles will not exceed the stationary level unless tampering has occurred. Therefore, some cyclists will receive citations needlessly. Some information should be included in the label or the owners's manual stating that the stationary noise level on the label represents the 90th percentile level and that some motorcycles may exceed the level by a small amount."

Response:

EPA has eliminated the requirement for motorcycle manufacturers to conduct F50 stationary tests in the final rule and as a result motorcycle manufactuers and exhaust system manufacturers will not be required to include stationary sound level information on the label.

6.6 TAMPERING

Issue: Is tampering with manufactured products the true problem causing unacceptable noise levels and not motorcycles in general?

Comments:

Manufacturers' Comments

Kawasaki and Harley-Davidson both expressed concern that regulating new motorcycles would not solve the noise problem which is caused by modified motorcycles. Harley-Davidson contended that "no amount of costs heaped onto manufacturers and consumers" will solve the modified motorcycle problem. Even though performance is not necessarily increased when modifying motorcycles, it is still done.

Aftermarket Manufacturers' Comments

Alphabets Custom West, Florida Cycle Supply, Jardine Header, and RC Engineering all pointed out that the true problem with motorcycle noise is caused from owner modifications or misuse of the original product. Jardine Header contended that owner modification will continue to exist even though new vehicles will be regulated.

State and Local Government Comments

The Washington Metropolitan Council of Governments, the Los Angeles City Attorney's office, the California Office of Noise Control, the Gainsville, Florida, Department of Community Development, the Florida Highway Patrol, and the San Francisco Police Department Noise Enforcement team all stated that the true problem evolves from modified motorcycles. The San Francisco Police Department Noise Enforcement team reported that 75 percent of the motorcycles stopped were modified.

The Los Angeles City Attorney's office, the Florida Highway Patrol and the San Francisco Police Department Noise Enforcement team stated that the difference between defective and modified mufflers must be distinguished.

The California Office of Noise Control suggested that modified motorcycles be identified as a separate source of noise and given higher priority.

Trade Association Comments

The ANCMA, BPICM, the Berliner and Premium Motor Corporation, the MIC, and the Specialty Equipment Manufacturers' Association all stated that the true problem of motorcycle noise is caused by owner tampering.

Dealer/Distributor Comments

The following dealers and distributors stated that tampering is the true source of noise problems and/or new motorcycles are quiet:

Spokane Suzuki
Kawasaki Midwest
West Valley Cycle Supplies
Kelly Bros. Cycle Parts
Performance Sales Assoc., Inc.
Texas Motorcycle Dealers' Assn.
Dudley Perkins Co.
Phil Peterson, Harley-Davidson Dealer
Wholesale Supply
Honda of Ft. Walton
Harley-Davidson of Valdosta
Kelly's Cycle Shop
Maryland Cycle Supply
Ohio Motorcycle Dealers' Assn.
TRI-ONDA
Honda of Ocala
Western Kawasaki
Tramontin Harley-Davidson Inc.
Maryland Motorcycle Dealers' Assn.
Athens Sport Cycles, Inc.
Blackwater Van & Cycle Supply
Munroe Motors
Doty's Motorcycle World, Inc.
Honda of Terre Haute
Godfrey Custer, Motorcycle Dealer
Fay Myers Honda
Wisconsin Motorcycle Dealers' Assn.

Motorcycle Interest Group Comments

Road Rider Magazine stated that more research was needed to determine what types of motorcycles are being modified and the characteristics of the individuals who install modified systems. Without such information, it will be difficult to solve the real noise problem.

The following interest groups expressed the view that tampering was indeed the true problem which EPA should address itself to:

- ABATE of Michigan
- AMA
- Harrisburg MC Inc.
- *Rider Magazine*
- AMA Great Plains Dist. 33
- BMW Motorcycle Owners of America
- Cross Island MC
- *Motorcycle Product News*
- Central Florida BMW Motorcycle Owners
- Pennsylvania Trail Riders' Assn.
- Freedom Riders MC
- Jersey Motorcycle Assn., Inc.
- ABATE of Maryland

Response:

It was recognized at the time of identification that much of the current impact from motorcycles comes from owner-modified motorcycles (particularly those with ineffective replacement and modified exhaust systems). Studies indicate, however, that unmodified motorcycles, if not regulated, will become the single loudest source of traffic noise when other vehicles are quieted as part of EPA's program to reduce traffic noise impact.

The Agency studies have confirmed that controlling exhaust system modifications is an essential part of any strategy designed to lessen the impact of motorcycle noise on the public health and welfare. The "modification" problem consists of two parts: owner alterations to original equipment exhuast systems (tampering); and the availability of replacement systems with poor muffling performance. Motorcycles which are modified by either method can be as much as 20 decibels louder than motorcycles in stock configuration. Noise levels of such vehicles are higher than those of any other (unmodified) road transport vehicle type. It is conservatively estimated that nationwide some 12 percent of street motorcycles, and approximately 26 percent of off-road motorcycles currently have exhaust systems that have been modified by one or the other method. That reducing exhaust system modifications in addition to lower noise emissions for new motorcycles is essential to reducing the overall impact of motorcycle noise is illustrated by the fact that a 50% reduction in the number of exhaust-modified motorcycles would accomplish the same reduction in impact as lowering new motorcycle noise levels by 10 decibels. Although no accurate method of prediction has been identified by EPA, the Agency estimates that eliminating the availability of loud, ineffective systems could decrease the incidence of exhaust system modification by half.

6.7 PENALTIES FOR TAMPERING

Issue: Are stiff penalties needed to prevent tampering violations?

Comments:

State and Local Government Comments

The California Highway Patrol commented that stiff fines should exist to prevent tampering and it believes that enforcement can be proven to be cost-effective with fines and citations.

Orange County, California also suggested ticketing loud motorcycles as a method to deal with modified motorcycle noise.

Aftermarket Manufacturers' Comments

Alphabets Custom West, and Jardine Header expressed the belief that if fines were levied for excessively loud modified systems, then such occurrences would decrease.

Trade and Interest Group Comments

AESMC, the American Motorcycle Association, Point Loma Chapter of the American Association of Retired Persons, and Citizens Against Noise Trespass all commented that fines for tampering are in order.

Response:

State and local enforcement authorities are encouraged to enact penalties for violations of the motorcycle and motorcycle replacement exhaust system noise regulations. This assures a wide coverage of enforcement of the in-use acoustical assurance period requirement and the anti-tampering provisions.

As an aid to State and local authorities, each motorcycle must display two labels which may be used to determine compliance. One, on the motorcycle frame, identifies the motorcycle manufacturer, class, and advertised engine displacement. The other label exists on the exhaust system, and must contain the same model specific code as that of the motorcycle on which it is mounted. An enforcement officer need only compare the two to verify that the exhaust system is proper for the particular motorcycle.

6.8 PUBLIC AWARENESS PROGRAM

Issue: Should the public be educated about the tampering problem and how to deal with it?

Comments:

Manufacturers' Comments

Harley-Davidson believed that the submission of a list of acts of tampering will 'educate' the owner and may, in fact, cause more tampering. A simple statement against tampering is sufficient.

Yamaha argued just the opposite point. Yamaha favors the concept of providing materials which educate the consumer and dealer as to what in fact tampering is and the consequences associated with it.

Kawasaki supported the MIC's efforts to aid local enforcement efforts to educate the general public and to motivate operators towards achieving the goals of quieter motorcycles. Kawasaki does not want to tell customers not to modify their motorcycles by listing tampering violations.

Aftermarket Manufacturers' Comments

Alphabets Custom West believes that providing information about performance and respective noise levels will help persuade the consumer not to tamper.

Serve-Equip, Inc. recommended that dealers and distributors be provided with a booklet outlining and simplifing the mass of data in the regulation.

State and Local Government Comments

The Illinois EPA, Orange County, California, the Gainsville, Florida Department of Community Development, the Florida Department of Environmental Regulation, and the Maryland State Police all believe that a public awareness program is needed to support the regulations.

NACOR also supports and recommends a public education for both citizens and law enforcement officials.

Trade Association Comments

The MIC commented that a greater degree of education and technical assistance for law enforcement authorities and support for a dealer and rider awareness and behavior modification program is needed.

Dealer/Distributor Comments

The Dudley Perkins Co. suggested that an attempt be made to educate and inform customers of the noise problem; but Spokane Suzuki doubts if EPA will ever be able to control tampering.

Motorcycle Interest Group Comments

Road Rider Magazine suggested that EPA confer with the Motorcycle Safety Foundation in regard to education about motorcycle noise and the impact any education effort may have.

The American Motorcycle Association and its Florida District A stated that an education program should be developed to inform the public of the tampering problem.

Public Interest Group Comments

The Environmental Law Society believes that Section 206.173-2 of the proposed regulations does not provide "adequate protection against tampering by purchasers or retailers. Although such tampering would violate 42 USC 4909(a)(2) according to the regulation's proposed warning against tampering, no penalty is provided for such violation." The Environmental Law Society urged EPA to strengthen this provision by providing the necessary penalties.

Response:

The Agency believes that the anti-tampering provisions as now written (Sections 205.162-2 and 205.173-2) allow for adequate monitoring of possible acts of tampering.

The provisions required manufacturers of new motorcycles to submit for EPA approval, a list of possible tampering acts and to include these acts in the owner's manual as a warning to consumers regarding those acts which constitute potential tampering. The provisions require aftermarket exhaust system manufacturers to warn consumers that any modifications made to the replacement exhaust system causing the motorcycle to exceed the standard, would constitute tampering.

6.9 STATE AND LOCAL ENFORCEMENT

Issue: Will there be any benefits from the Federal regulation without state and local enforcement?

Comments:

Manufacturers' Comments

Harley-Davidson, Kawasaki, MAICO, Suzuki, and Yamaha all commented that state and local enforcement is crucial to the ultimate effectiveness and success of this regulation. Without it, the noise problem will continue, resulting in no health and welfare benefits.

Kawasaki further pointed out that if there are some manufacturers who can, through lack of enforcement, continue to sell products which do not properly comply, they will be able to gain a cost benefit and possibly a performance benefit depending on the product.

As MAICO stated, "anything a manufacturer does cannot solve the problem of tampering." Local enforcement is elementary to the success of this regulation.

Aftermarket Manufacturers' Comments

Alphabets Custom West, Gemini Tube Fabrications, Hooker Industries, Jardine Header, MCM Manufacturing, and RC Engineering all contended that without effective enforcement, the tampering and hence the noise problem will continue to exist.

Gemini Tube Fabrications believes that no further reduction in noise levels should occur without first proving that effective enforcement exists at the current levels.

Jardine Header and Alphabets Custom West expressed concern that some small shops will continue to produce and sell noisy exhaust systems and warned that these businesses will be hard to control.

RC Engineering commented that the local level is where the problem is and where it must be solved.

State and Local Government Comments

Close cooperation between local, state, and Federal officials will be needed to effectively enforce these regulations, according to the Washington Metropolitan Council of Governments, and the California Highway Patrol. The Hillsborough County Environmental Protection Commission stated that EPA's regulations provide a good working tool for local enforcement.

There does remain a problem of arriving in time to catch the noise violators, according to the Los Angeles City Attorney's office, and the Hillsborough County Environmental Protection Commission. The Washington Metropolitan Council of Governments also pointed out that, "we're dealing with unlicensed drivers operating unlicensed vehicles."

Local law enforcement agencies have priorities other than noise enforcement according to Orange County, California. The Hillsborough Environmental Protection Commission stated that there is a fear of being labeled "police harassment" when enforcing noise standards.

The courts will eventually play a role in the effective enforcement of noise standards. The California Highway Patrol commented that it seldom loses when it goes to court to prove noise violations, but the Gainesville, Florida Department of Community Development stated that problems arise when trying to provide evidence in support of a citation for noise violation in court. The Florida Highway Patrol has been taking a noise level reading of violative motorcycles to court as evidence to prove their cases. However, the City of El Segundo, California warned that the attitudes and interpretations of judges determine the effectiveness of any enforcement effort.

The Maryland State Police expressed some doubt that the Maryland legislature would be receptive to adopting a law to enforce the Federal government's requirements.

Trade Association Comments

ANCMA and BPICM pointed out the absolute need for effective enforcement of the laws at the local level. The MIC charged that EPA was more concerned with the technical compliance detail than with the sociological aspects of owner behavior and lack of community enforcement activities.

Dealer/Distributor Comments

The Wisconsin Motorcycle Dealers' Association stated that "some Federal involvement in the setting of standards is necessary. However, in the final analysis it will require education and encouragement of the motorcyclists combined with local enforcement efforts to effectively control motorcycle sound emissions."

The following dealers and distributors believe that without state and local enforcement of the proposed regulations, EPA's noise program will be ineffective:

- Honda of Ft. Walton
- West Valley Cycle Supply
- Performance Sales Assn., Inc.
- Kelly's Cycle Shop
- Texas Motorcycle Dealers' Assn.
- Ohio Motorcycle Dealers' Assn.
- Honda of Ocala
- Western Kawasaki
- Cycle Sport Unlimited
- Tramantin Harley-Davidson, Inc.
- Honda of Terre Haute
- Pennsylvania Motorcycle Dealers' Assn.

Motorcycle Interest Group Comments

Cycle World Magazine stated that police departments do not spend a lot of time enforcing noise regulations today and, along with Tumbleweed MC Club of Brockton, Inc. and Rider Magazine, Cycle World Magazine believes that enforcement is still needed with current laws.

Public Interest Group Comments

The Environmental Law Society recommended that EPA present state and local governments with recommendations for specific enforcement procedures and ordinances.

The National Retired Teachers Association and the American Association of Retired Persons stated that state and local enforcement will depend on effective Federal action.

Citizens Against Noise Trespass and the 630 Club stated that current efforts by state and local enforcement authorities must improve.

Response:

The Agency expects a 56% reduction in impacts due to this regulation even without State and local complementary programs. Also, the Agency anticipates that this Federal rulemaking will prompt similar complementary regulations at the State and local levels. Enforcement of these regulations will be made simpler as the labeling requirements and other enforcment-related provisions of this regulation become effective. With vigourous in-use enforcement at the State and local level, combined with Federal noise performance standards for replacement exhaust systems, EPA estimates that in areas where State and local enforcement programs are implemented, the level of motorcycle exhaust modifications may be reduced to approximately one quarter of their current numbers. This would result in a projected 77% reduction in motorcycle noise impact. EPA anticipates devoting a significant amount of effort, under the Quiet Communities Act of 1978, to assistance to State and local agencies in originating and enforcing their own noise control programs.

6.10 FEDERAL SUPPORT

Issue: Are Federal subsidies needed at the state and local level to support noise enforcement activities, and should EPA commit resources to assisting communities to prepare and implement effective enforcement procedures?

Comments:

Manufacturers' Comments

Harley-Davidson suggested that EPA promote effective local enforcement by educating and training governing bodies, the judiciary, and enforcement personnel as well as developing model codes and ordinances. It should also be noted that there is a lack of support for committing local funds to support noise programs.

Kawasaki suggested that EPA seek amendments to the Noise Control Act to obtain subsidies to support state and local enforcement activities. Yamaha also suggested that financial assistance is necessary to help state and local enforcement.

MAICO suggested that EPA give law enforcement officials a device which would record instant readouts to determine noise levels. Dealers should also have this device. The current test methods are too dangerous and subject to weather conditions.

Aftermarket Manufacturers' Comments

Jardine Header contended that a "strong federally-funded in-use enforcement policy is essential to the success of any motorcycle noise control program."

State and Local Government Comments

The Washington Metropolitan Council of Governments pointed out that current local and state enforcement activities are extremely limited. Orange County, California, the Gainsville, Florida Department of Community Development, and the Florida Department of Environmental Regulation all mentioned the need for Federal funding, training, guidelines, and technical assistance.

Funds are needed to purchase sound level meters, according to the Los Angeles City Attorney's office, Orange County, California, and the Florida Highway Patrol.

The Florida Department of Environmental Regulations recommended that EPA undertake a study to develop a national strategy for motor vehicle noise enforcement.

The Maryland State Police stated that a relatively simple test requiring only one person would be the ultimate solution to the local and state enforcement needs.

The National Association of Counties Research commented that the issuance of "final regulations on motorcycles before local governments are educated as to their role may be counter-productive. NACO has gone on record in support of Senate bill S.3083 which gives EPA additional funding for strengthening local programs. This effort is essential to educate elected officials, train and equip noise officers, and to develop model programs for all sizes of cities and counties. If this effort is not made, the effectiveness of the program is severely limited and it will be harder to gather support several years from now for enforcement of regulations which have been "on the books" and ignored by local government. The Federal government must also be prepared to conduct research into the effects of noise pollution, provide information and technical assistance to local governments, and provide grants to states and local governments identifying sources of noise pollution.

Trade Association Comments

The MIC stated that EPA should commit a large staff and financial resources to the task of assisting community in-use enforcement.

The Specialty Equipment Manufacturers' Association recommended that EPA prepare training films and books to use in training police officers.

Motorcycle Interest Group Comments

The Pennsylvania Trail Riders' Association recommended that EPA develop model state legislation to deter tampering by owners.

The New England Trail Riders' Association reminded EPA of the current lack of manpower, equipment, expertise, and in some cases desire, for noise enforcement at the state and local level.

Response:

EPA, under the Quiet Communities Act of 1978 (PL 95-609; November 28, 1978) has set in place a grants administration program which provides financial assistance to State and local organizations to aid them in originating and enforcing their own noise control ordinances. The funds for these programs are limited, however, and are intended primarily to help initiate general community noise control ordinances. The greater part of continuing motorcycle noise enforcement program will remain the responsibility of state and local officials.

6.11 SOUND METERS

Issue: Will there be inconsistencies in enforcement, because sound meters differ?

Comments:

The Maryland State Police stated that inconsistencies exist between the Type 1 and Type 2 sound level meters which will be used. To be accurate and fair, enforcement officers would need two pieces of equipment but they will have the additional burden of determining which equipment should be used for enforcement action.

Mr. Ralph Hillquist, P.E. stated that "Paragraphs (a) (1) of Appendices I-1 (b) require that the sound level measurement system meet the SIA requirements of American National Standard Specification for Sound Level Meters, S1.4-1971 (R1976). This is unnecessarily restrictive, inasmuch as special purpose instrumentation is neither required in this circumstance or even readily available. By specifying only that the sound level meter or measurement system meet the Type 1 requirements or ANSI S1.4-1971, the desired accuracy is ensured, SIA instruments are permitted, and more importantly, all Type 1 instruments currently in the user inventory can be utilized."

Response:

The proposed regulation required that a Type 2 sound level meter be used in the stationary test and a Type 1 meter be used in the moving test. In the final regulation, there is no longer a requirement to perform a stationary noise test; therefore, a Type 2 meter is no longer necessary. Type 1 meters are to be used for all noise measurement made by both original equipment motorcycle and exhaust system manufacturers.

6.12 STATE STANDARDS FOR COMPETITION MOTORCYCLES

Issue: Since EPA has not proposed to regulate competition motorcycles, are the states free to regulate them?

Comments:

The Oregon DEQ requested that "EPA specifically address the issue of Federal preemption of new product standards, and state whether or not, in its opinion, Oregon can place new competition motorcycle noise emission standards on manufacturers."

Response:

EPA has decided that Federal noise standards are not the most effective way to deal with the problems associated with competition motorcycles. Rather, it is EPA's intention that State and local agencies determine the most effective method to deal with individual situations. In support of State and local efforts, however, EPA regulations require that all competition motorcycles be clearly labeled as such. This requirement should not preempt State and local agencies from regulating noise emissions from new competition motorcycles.

6.13 AMENDMENTS TO MOTORCYCLE NOISE RULE

Issue: Will the clarifying amendments of the December 5, 1977 Federal Register be carried over to the motorcycle noise regulation?

Comments:

The MIC stated that "in addition to the legal arguments raised in the Chrysler Corporation suit, EPA also filed amendments to the truck noise regulations on December 5, 1977. These amendments resulted from the Chrysler litigation, and were designed to clarify and better define EPA's regulatory authority under the Noise Control Act of 1972.

"Our initial review of the proposed motorcycle noise regulations indicates that not all of the amendments agreed to for the truck manufacturers have been carried over into the proposed motorcycle noise regulations. We would, therefore, request that all clarifying amendments set forth in the December 5, 1977 Federal Register notice of EPA, be incorporated into any future motorcycle noise regulations."

Response:

Many of the clarifying amendments and changes stipulated in the Chrysler litigation [Chrysler et al. v. EPA, 600 F2d 904 (D.C. Cir. 1979)] have been incorporated, where appropriate, into the final motorcycle noise emission regulation. Please refer to the item-by-item list of changes to the motorcycle regulation, found in the Preamble, for a brief discussion of these changes.

7. AAP/SLDF

7.1 NEED FOR AAP/SLDF

Issue: Are the AAP and SLDF requirements necessary?

Comments:

Manufacturers' Comments

Yamaha and Kawasaki said that the AAP/SLDF concepts were reasonable. Yamaha further stated that it was reasonable to verify products against the performance standard. Suzuki said tnat the AAP/SLDF requirements were unnecessary since newly manufactured motorcycles do not experience significant noise degradation. Suzuki also maintained that there will be no benefit from AAP/SLDF since the noise problem is due to modified motorcycles rather than unmodified motorcycles whose noise levels have degraded.

State and Local Government Comments

The Los Angeles City attorney stated that the AAP provisions will protect the consumer.

Trade Association Comments

BPICM found it difficult to resolve the contradiction between EPA's stated belief that the noise level of a properly maintained motorcycle will not degrade and the introduction of AAP into the proposed regulation.

The New England Trail Riders' Association commented that the AAP is an excellent idea which will eliminate the problem of continually rebuilding poorly designed muffling systems.

Response:

EPA maintains the view that the AAP provision is required to adequately protect the public's health and welfare. Without this provision, the benefits of the regulation could be severely reduced. If the noise control features of a product are not designed to be durable over time and the noise characteristics of regulated products degrade significantly after the sale of the product, no substantial health and welfare benefits can result from the regulation.

As EPA has stated previously, no significant degradation has been evidenced with motorcycles currently being manufactured. However, many motorcycle manufacturers will be making design changes to their products to be in compliance with the regulations. The AAP merely ensures that these changes are made such that they are durable over a reasonable period of time so that maximum health and welfare benefits can be obtained from the regulation. There are, unfortunately some components of motorcycles where degradation can and does occur. The AAP addresses this problem.

EPA is not dictating that a product's noise level cannot deteriorate during its AAP, but rather merely requiring that it not deteriorate above the standard. To better assure that products do not deteriorate above the standard, the regulation has been changed to no longer require that manufacturers compute a Sound Level Degradation Factor (SLDF); however, the degradation expected to occur must still be considered by manufacturers. The regulation requires that manufacturers establish records regarding the amount of anticipated noise level increase. The records may consist of statements of engineering judgment, the results of durability testing or other information which the manufacturer deems necessary to support the fact that his products comply with the standard for the AAP.

7.2 LEGALITY OF THE AAP

Issue: Is an Acoustical Assurance Period within the authority granted under the Noise Control Act?

Comments:

Aftermarket Manufacturers' Comments

Tenneco Automotive and Maremont Research and Engineering commented that the AAP is in effect a performance warranty which the Agency does have the power to implement under the Noise Control Act.

Trade Association Comments

The AESMC opposes the AAP concept since it appears to exceed the authority granted to the Agency by the Congress in the Noise Control Act. The AESMC submits that the AAP is a performance warranty, because if the AAP is not complied with during the year that it remains in effect, the manufacturer will be deemed to have violated the standard. The AAP commented that the AAP is in direct conflict with the legislative intent of Congress.

Response:

The AAP is not considered to be a performance warranty. However, in order to achieve the benefits intended by Congress, the AAP provision is required to adequately protect the public health and welfare. Without this provision the benefits of the regulation could be severely reduced. If the noise control features of a product are not designed to be durable over time and the noise characteristics of regulated products degrade significantly after the sale of the product, no substantial health and welfare benefits can result from the regulation.

EPA considers the authority for promulgating the AAP to be implicit in the Noise Control Act. In order to meet the requirements of the Act, it is necessary to ensure that real and lasting benefits result from each regulation. The AAP is an important and necessary provision of any noise emission regulation for achieving such lasting benefits.

7.3 COMPUTATION OF SLDF

Issue: Are more specific criteria needed for determining the SLDF?

Comments:

Manufacturers' Comments

Honda suggested that because there is no specific test procedure for the SLDF, the requirement should be deleted. Honda further stated uncertain weather conditions or component changes would force them to add a safety factor to the SLDF in order to ensure compliance with the regulation.

Suzuki indicated that the AAP concept was acceptable, but the SLDF should be delayed. Suzuki would find it helpful to have the SLDF determined by using motorcycles tested in the air emission regulation durability data collection, but, Suzuki admits that this might be difficult since the motorcycles air emission categories are different than the noise categories.

Yamaha stated that an unreasonable testing burden to determine SLDF was not warranted when an enforcement provision such as the SEA is sufficient to check a false verification.

Trade Association Comments

ANCMA and BPICM commented that the criteria for SLDF are too subjective. Specific tests should be developed, according to ANCMA. MIC indicated that it would take a year of testing to determine the SLDF, which is an unacceptable burden on the manufacturers. The current requirements do not provide the manufacturer with a technically defensible method for responding to an enforcement action, if the SLDF is based on engineering judgment.

SEMA recommended that aftermarket manufacturers be allowed to use a standard SLDF rather than having to test each motorcycle exhaust system.

APAA would prefer in-use testing by EPA rather than the SLDF requirement.

State and Local Government Comments

Sound degradation is no problem if mufflers are made larger and steel packed rather than glass packed, according to the San Francisco Police Department.

Aftermarket Manufacturers' Comments

Nelson Industries is concerned that motorcycle components other than the exhaust system may contribute to a SLDF greater than zero even though the exhaust system alone would experience no degradation. This could result in the replacement exhaust system being determined inadequate with respect to degradation when the degradation is due to other motorcycle components.

Response:

Developing and implementing long-term durability testing could move back the effective date of the regulation by several years. The cost of such a program as well as the substantial delay in achieving benefits from the regulation does not, in the EPA's opinion, constitute a cost effective approach to minimizing the noise level degradation of regulated products.

The EPA did request comments concerning the desirability of design criteria for exhaust systems. The response from manufacturers indicates preference for the AAP concept rather than design criteria. Thus, although larger and steel packed mufflers would produce less noise degradation than glass mufflers, this is a design criteria, and left to the manufacturer's discretion.

Any product found to be in noncompliance with the AAP would be thoroughly evaluated by EPA to determine the factors contributing to non-compliance. If the replacement exhaust system is not a factor in the non-compliance of the motorcycle, the replacement system manufacturer would not be in violation of the noise emission standards.

Computation of a Sound Level Degradation Factor (SLDF) is no longer required. Please refer to the discussion in comment number 7.1 for details on this change.

7.4 DURATION OF AAP

Issue: Should the duration of the AAP be changed?

Comments:

Manufacturers' Comments

Honda recommended that the length of the AAP for street bikes be one year and a varying number of kilometers, depending on the size of the motorcycle. For off-road bikes, the length of the AAP should be time-related only since they usually do not have odometers. Honda further stated that the AAP should be consistent with the useful life of the product under the exhaust system air emission regulations.

AMF noted that mopeds do not usually have odometers and therefore the mileage requirements for the duration of the AAP would not apply. However, if EPA does go with the AAP distance requirement, AMF recommended 500 to 1000 km as appropriate for mopeds.

Trade Association Comments

ANCMA commented that different categories of motorcycles travel different distances per year and therefore should have different mileage limitations for the AAP. ANCMA recommended 200 km for mopeds, 3000 km for motorcycles less than 250cc, and 5000 km for motorcycles over 5000cc. BPICM concurred with ANCMA's recommendations, and said that these results were obtained from the manufacturers' workshop experience.

State and Local Government Comments

The Illinois EPA believes that the AAP should be longer than one year. The California Office of Noise Control would like the AAP to be extended to be commensurate with the current industry warranty coverage which is 10,000 km or 6,000 miles. Orange County, California indicated that the short AAP period proposed would encourage the manufacture of products which would soon exceed the standards. Also, a person receiving a noise citation for a motorcycle that has gone beyond the AAP could conceivably use this fact as a successful defense in court. A more reasonable requirement would be one year or 12,000 km.

NACOR recommends the expansion of the AAP to one full year and 12,000 km. Making the standards more strict will lighten the responsibility of law enforcement officers.

Aftermarket Manufacturers' Comments

Gemini Tube Fabrications stated that the AAP period of one year or 1,865 miles is an excessively long test period for aftermarket manufacturers because they do not have access to the various motorcycle models for this period of time.

Response:

In determining the length of the Acoustical Assurance Period, EPA took into account the magnitude and conditions of use of these products, the best maintenance attendant to noise control, and the cost of compliance. If a high quality product is well maintained, significant degradation should not occur over the expected life of the product. However, EPA does not consider it reasonable to hold the manufacturer responsible after the expected time of the first significant repairs. Beyond this, it should be the owner's responsibility to ensure that the noise levels do not increase due to inadequate maintenance or component degradation.

The length of the AAP is specified in terms of both time and mileage for motorcycles or mopeds without odometers. Further distinctions between motorcycles because of displacement does not appear to be warranted. The AAP for mopeds will be the same as that for street motorcycles.

7.5 COST OF AAP AND SLDF

Issue: Are the costs of determining the AAP and SLDF too high?

Comments:

Manufacturers' Comments

Suzuki expressed concern that it is extremely expensive to test each motorcycle configuration for a SLDF. Also, the administration of the AAP will be costly because it will involve many hours of explaining that the AAP is not a warranty covering any problem remotely related to noise.

Aftermarket Manufacturers' Comments

Gemini Tube Fabrications, Hooker Industries, Jardine Header, and Nelson Industries were all concerned about the high costs of meeting the AAP and SLDF requirements. Gemini indicated that a small aftermarket manufacturer does not have the resources necessary to determine these sophisticated measurements. Gemini and Jardine both indicated that determining the SLDF would require some guesswork.

Response:

To ensure that manufacturers develop and apply durable noise reduction measures to their products, the Agency established a specific period during which newly manufactured products must, as a minimum requirement, comply with the Federal standard. If a product complies with the standard during the AAP period, it is unlikely that the noise emissions will degrade (increase) above the standard for the remainder of the expected life of the product, provided that the product is properly maintained and used.

The SLDF requirement has been deleted from the regulation. The record keeping requirements which remain, are minimal and a part of normal product development. The costs associated with these requirements are likewise minimal.

7.6 SSL AND SLDF RELATIONSHIP

Issue: What is the correlation between the Stationary Sound Level (SSL) and the SLDF?

Comments:

Trade Association Comments

The ANCMA commented that if degradation occurs it will certainly result in a change in the Stationary Sound Level. It is not clear how the SLDF will be considered when determining the SSL label value on the new motorcycles.

Response:

Both the stationary sound level and SLDF requirements have been deleted from the final regulation.

7.7 AAP AS A DESIGN CRITERION

Issue: Should the AAP be based on more specific requirements, such as design criteria?

Comments:

Manufacturers' Comments

Harley-Davidson indicated that EPA should avoid any design criteria for AAP/SLDF. Harley-Davidson was also concerned that since the SLDF regulation is vague, manufacturers would be forced to conduct extensive test programs to determine the noise level over a wide range of operating conditions.

Aftermarket Manufacturers' Comments

Jardine Header stated that if EPA would like to eliminate glass packed mufflers, "that is one thing," however, to require an AAP in an attempt to eliminate glass packed mufflers "is quite another."

Response:

The AAP is not a design criteria nor is it directed to eliminating any particular design of motorcycle or exhaust system. Its primary purpose is to ensure that whatever design or component is used does not degrade such that the product does not meet the standard for a reasonable amount of time.

7.8 AAP ALTERNATIVE

Issue: A durability test simulating the actual usage and wear of exhaust systems should be developed and used in place of AAP.

Comments:

Private Citizen Comments

Mr. Thomas L. Geers, Ph.D recommended eliminating the AAP and replacing it with an acceleration test procedure that stimulates 6000 km of motorcycle usage. "The durability requirement would reduce to the satisfication of the fundamental noise emission standard at the end, as well as at the beginning, of the acceleration test.

Response:

The difficulty of obtaining a safe and economical acceleration test prohibits the possibility of establishing such an alternative to the AAP. Such a test procedure would be expensive to conduct. The motorcycle industry, in general, strives to produce long lasting, durable products by using component parts of high quality and designs which can withstand extensive use, and with the exception of glasspack mufflers, the majority of these products will not degrade significantly if properly used and maintained. As such, it would be inappropriate to set up an indiscriminate requirement that manufacturers conduct such a test.

8. MOPEDS

8.1 THE LEGALITY OF REGULATING MOPEDS

Issue: Can mopeds be legally regulated?

Comments:

Trade Association Comments

The Moped Association of America critiqued EPA's action concerning mopeds and reviewed the Noise Control Act of 1972. The Moped Association of America found that "only if a product is identified as a 'major source of noise' either alone or as part of a class, or if its regulation is 'requisite to protect the public's health and welfare' is there statutory authority for the imposition of noise emission standards with respect to that product." EPA has not identified mopeds as a 'major source of noise' either individually or as part of a larger class, nor has it found that regulating mopeds would benefit the public's health and welfare. Within EPA's own literature, mopeds were stated to be "relatively quiet" and were found to "typically have low sound levels." The MAA submits that a desire to prevent future tampering with mopeds is insufficient reason to justify regulating the product under the 1972 Act.

In addition, the background document or any other administrative record fails to justify EPA's fears regarding the future impact of mopeds in this country. There is no proof that the European experience is applicable in the U.S.

Finally, the laws of 33 states preclude the likelihood of a competitive atmosphere conducive to increased performance goals.

When EPA can verify that mopeds are a major source of noise, then it will be time to impose regulatory limits. Now the administrative burden and costs do not justify the benefit to the public.

Response:

EPA believes that it has the authority to include mopeds in the final Rulemaking. Section 5 of the Noise Control Act gives the Administrator the authority to identify "classes of products" as major sources of noise, but does not require that each subpart of the class be identified. Motorcycles as a class were identified under the authority of Section 5(b)(1) of the Act as a major source of noise on May 28, 1975. The identification of motorcycles as a major source of noise was based on the total impact of motorcycle operations. The identification did not specify which types of motorcycles or motorcycle operations were responsible or further define at that time all of the various vehicles which are included in the class of vehicles known as motorcycles. Whether mopeds can be considered to be covered by this identification depends upon whether mopeds can reasonably be considered to fall into the motorcycle class.

States refer to mopeds as motorized bicycles, bicycles with helper motors, class "C" motorcycles (New York), and simply as mopeds. The ISO noise standards refer to mopeds as "motorcycles" with an engine capacity which does not exceed 50 cc's. The National Highway Traffic Safety Administration (NHTSA) refers to mopeds as motor driven cycles with specified limits on maximum speed, horsepower, and engine displacement. However, "most mopeds cannot be considered truly pedalable because of their heavy weight (100 lbs. compared to 20 to 40 lbs. for bicycles) and extremely low gearing which means the rider has to pedal fast and hard" (Consumer Guide Magazine).

The pedals and other special attributes, such as a top speed of 25 to 30 mph and a maximum engine power rating of 1 to 2 hp, are designed to qualify the moped for less restrictive operator licensing restrictions, nominal state registration fees, and exclusion from otherwise mandatory helmet and insurance requirements. By function, they are small motorcycles with limited engine displacement. For these reasons, the Agency considers mopeds to be a class of motorcycles.

8.2 COMPLIANCE WITH MOPED REGULATIONS

Issue: Should mopeds be regulated or, at a minimum, have their compliance standards lowered?

Comments:

Manufacturers' Comments

AMF and Motobecane oppose the regulation of mopeds for noise. Mopeds are viewed as noiseless vehicles which do not contribute to the endangerment of the public's health and welfare.

AMF said that mopeds are not motorcycles and should be treated as a separate issue with its own comprehensive approach. Mopeds are quiet, and EPA did not list them as a major source of noise. It seems to be regulation for the sake of regulation. Yamaha also stated that mopeds have not been identified as a major source of noise.

Although AMF can meet the 70 dB level, the manufacturer points out that it still must face the compliance burden.

Motobecane commented that EPA should be satisfied with a yearly certificate issued by the manufacturer stating the sound level of the vehicle. Motobecane has stated that it is willing to mark the exhaust silencer with the noise level Yamaha points out that the potential for tampering with mopeds does exist and for this reason, Yamaha is "willing to incur the administrative costs to effectuate the overall scheme of regulations." However, Yamaha also points out that the people who purchase mopeds are not likely to tamper with the vehicle.

State and Local Government Comments

The Oregon DEQ believes mopeds should be labeled with the stationary test decibel level to facilitate enforcement.

Trade Association Comments

ANCMA, BPICM, Du Motocycle, and the Moped Association of America do not favor regulating mopeds. They are not a noise source and tampering is not expected to be a problem.

BPICM stated that the exhaust system and vehicle could be labeled to verify compliance to enforcement personnel.

The Moped Association of America contends that regulating mopeds will not create any environmental benefits. EPA should exempt mopeds from the regulation and undertake a study to determine if mopeds will be troublesome in the future. The Moped Association of America also points out that state limitations on performance and power serve to keep moped noise down.

If EPA desires to regulate mopeds, the Moped Association of America recommends simple annual letter of certification from each manufacturer rather than the complicated compliance scheme proposed.

Private Citizen Comments

Mr. David Wallis stated that EPA's rationale to regulate mopeds was weak since mopeds are motorized bicycles and not motorcycles. They have not been listed as a major source of noise, and that, even if their numbers increase this does not indicate their noise will.

Response:

EPA considers mopeds as a part of the motorcycle class which was identified as a major source of noise on May 28, 1975. Accordingly, the Agency believes that mopeds should be regulated (See the Response to Issue 8.1).

Although most new mopeds are quieter than other new motorcycles during acceleration, their noise levels are comparable to new motorcycles during low speed cruising because the moped must operate at or near full throttle to maintain its top speed of 25 or 30 mph. The average A-weighted noise level of current new larger motorcycles at a cruising speed of 25 mph is about 68 dB while the level of 7 mopeds that were tested, at their maximum speed of 25 to 30 mph varied from 60 to 74 dB (based on a 50 foot microphone distance from the vehicle's path). Notably, the average new automobile has an average noise level at a cruising speed of 25 mph of only 61 dB, significantly lower than the average moped or larger motorcycle.

EPA has identified a day-night sound level (L_{dn}) of 55 dB as the environmental noise level below which no significant adverse impact on public health and welfare occurs. The Agency desires from a health and welfare perspective to quiet all noise sources substantially below the 70 dB level in order to bring about an acceptable environmental noise level. Standards have not been set this low in regulations for trucks and other sources only because of the limits of available technology and the cost of compliance. Although new mopeds may be quiet compared to new trucks, EPA does not believe that new mopeds should be permitted to have increased noise levels in the future especially when there are no costs (other than the small cost of showing compliance to EPA) associated with meeting the 70 dB standard. All mopeds that have been tested by the Agency which are being sold in the U.S. easily comply with the standard.

In Europe where mopeds are much more common than in the United States, mopeds with ineffective exhaust systems contribute significantly to the motor vehicle noise problem. This noise problem can be attributed to the removal of mufflers to make the moped engine sound more powerful and the failure to replace faulty exhaust systems. EPA believes that the European experience with mopeds, similar in many respects to the current motorcycle noise problem in the U.S., is also likely to be repeated in this country as the moped population continues to grow. An aftermarket company is already marketing parts and services to increase moped horsepower and performance. A substantial market for such performance products as racing exhaust pipes for mopeds can be expected. The use of such exhaust systems can increase vehicle noise levels by as much as 20 dB. Modified mopeds would be considerably noisier than larger motorcycles meeting the noise standards. Because mopeds are likely to be operated on local residential streets and in back yards where ambient noise levels are lower than more highly trafficked areas. such modified mopeds would stand out especially strongly and would likely cause severe annoyance to the residents.

However, if mopeds and moped replacement exhaust systems are regulated, sales of replacement exhaust systems designed specifically to increase the noise levels of mopeds will be curbed. Without such a regulation, sales of these noise producing products could be expected to continue to grow as the moped population increases, and similar problems caused by noisy replacement exhaust systems for larger motorcycles would result.

In the absence of a Federal rule for mopeds and moped replacement exhaust systems, the resources required by State and local governments to counter the moped noise problem could be substantial. By including mopeds in this rulemaking, State and local governments will receive significant benefits even if they take no further steps. With this rulemaking, coupled with anti-tampering efforts by State and local officials, a serious moped noise problem in this country could be substantially avoided.

The specified administrative requirements in the final rule for moped manufacturers to show compliance with the standard are the same as for other motorcycles. However, the Agency expects to reduce the yearly moped testing requirements for many moped manufacturers by liberally allowing carry-over of previous years' production verification test data. The liberal carry-over policy will be applied for those manufacturers whose mopeds have noise levels well below the not-to-exceed standard. A number of manufacturers are expectd to demonstrate this qualification in the first year after implementation of the rulemaking.

8.3 INFLATIONARY IMPACT OF MOPED REGULATION

Issue: Will the proposed regulations inflate the price of mopeds?

Comments:

Manufacturers' Comments

AMF is extremely concerned about the inflationary impact of the moped noise regulation, especially since EPA has no evidence of a moped noise problem nor a cost-benefit analysis of the regulatory effect on mopeds.

AMF forecasted the following cost impacts: $100,000 for the initial year and $35,000 to 50,000 annually thereafter for production verification, testing, reporting, sound level degradation testing, product assurance testing, and vehicle labeling.

Even though AMF's Roadmaster moped is below the 70 dB, AMF cannot escape the administrative costs mandated by this inflationary regulation.

Trade Association Comments

Du Motorcycle and ANCMA commented on the inflationary nature of the regulation. As ANCMA points out, the costs of compliance and therefore the expected increase in price would represent a high percentage of the present vehicle cost.

Response:

EPA does not believe the final regulations will inflate the price of mopeds. All mopeds that have been tested by the Agency which are being sold in the U.S. easily comply with the standard.

The only cost for moped manufacturers is the small cost of showing compliance to EPA. The compliance costs could be further reduced since the Agency expects to allow liberal carry-over of previous years' production verification test data for manufacturers whose mopeds have levels well below the 70 dB standard.

8.4 MOPED TESTING REQUIREMENTS

Issue: Will it be possible to find a test site for mopeds that has an acceptable ambient noise level?

Comments:

Manufacturers' Comments

AMF contends that it will be extremely difficult to get a background noise level at a test site 10 dB below the noise emission of a 63 dB Roadmaster moped. The siting and construction of a moped test site, together with weather-related restrictions, makes moped noise testing extremely difficult especially since mopeds are not a noisy product.

Response:

Those moped manufacturers that find it difficult to locate test sites with acceptable ambient noise levels will be allowed to test with the microphone at 7.5 meters from the vehicle path, rather than 15 meters specified in the moped test procedure and subtract a correction factor of 6 dB from their measurements. Since the tested noise levels would then be higher, the problem of finding a test site with an ambient 10 dB below the regulatory level should be effectively eliminated.

8.5 MOPED SOUND LEVELS

Issue: Is the noise emission standard for mopeds too stringent?

Comments:

Manufacturers' Comments

Motobecane commented that not all of its models can reach 70 dB. The fastest models go as high as 72 dB.

Yamaha supported 73 dB as the not-to-exceed level. The initial 70 dB level is too strict in light of the lead time offered.

Trade Association Comments

ANCMA, BPICM, Du Motocycle, and the Moped Association of America all support 73 dB as the regulatory level for moped noise.

ANCMA stated that 73 dB was far below the noise levels of all other vehicles and is in line with the corresponding European regulations.

BPICM and Du Motorcycle commented that because EPA's test methods differ from the European Regulation 9 method, moped noise standards will be more strict in the U.S. than in Europe.

BPICM contends that the difference between 70 dB and 73 dB produces infinitesimal benefits but at very considerable costs.

The European levels (measured by the European method) are between 73 and 74 dB. If the EPA regulation is 73 dB, the U.S. standard will still be below the European standard. Furthermore, in Europe there is a 1 dB tolerance in relation to the theoretical limit established and a 2 dB margin between working vehicles and new vehicles.

The Moped Association of America indicated that although its member companies can meet the 70 dB level, the margin is very close. One member company has asked that the noise standard be 73 dB, especially in light of the fact that the proposed 1985 limit for street motorcycles is 78 dB.

Response:

EPA does not believe that the noise emission standard for mopeds is too stringent because all the mopeds that have been tested by the Agency which are being sold in the U.S. easily comply with the standard. The costs are reasonable since moped manufacturers will have to only incur the small costs of showing compliance to EPA.

In addition the Agency believes that the standard is compatible with the European standard taking into account the differences in microphone distance, vehicle operating procedure, and enforcement and production tolerances.

9. GENERAL

9.1 PREEMPTION OF STATE AND LOCAL NOISE LAWS

Issue: Will this regulation preempt state and local motorcycle noise laws?

Comments:

Manufacturers' Comments

Suzuki favors Federal motorcycle regulations, because the states have been legislating without technical analysis.

Aftermarket Manufacturers' Comments

Jardine Header states that Federal standards preempting existing state and local noise limits are necessary to unify the national motorcycle noise control program. Kendrick Engineering concurred with this view, especially since each state requires a different test procedure.

State and Local Government Comments

The Los Angeles City Attorney's office and the California Office of Noise Control expressed concern that EPA's levels would preempt California's levels. The Los Angeles City Attorney's office asked why MIC was willing to lobby for 75 dB in California yet settle for 78 dB with EPA's regulations.

The Florida Department of Environmental Regulation and the Florida Highway Patrol suggested 80 dB for a starting level since Florida already regulates to 83 dB.

The Oregon DEQ stated that EPA's standards are not adequate since they are less stringent than Oregon's. For off-road bikes, EPA's starting level of 86 dB is also not favored since many states already have noise standards in effect requiring 86 dB.

The Illinois Environmental Protection Agency also favored more stringent levels.

Trade Association Comments

The Specialty Equipment Manufacturers' Association expressed the concern of many within the industry, i.e., standards which vary from state to state and locality to locality lead to inequities in enforcement and compliance difficulties for manufacturers. "Having a realistic standard at the national level should eliminate these problems."

Public Interest Group Comments

The Lakewood Civic Association contends that EPA's regulation should be at least as strong as current state regulations.

Response:

EPA has established motorcycle noise emission standards that will preempt the standards for newly manufactured motorcycles and motorcycle replacement exhaust systems adopted by several states, to provide national uniformity of treatment for controlling motorcycle noise. Prior to promulgation, EPA conducted a thorough review of current state and local motorcycle noise regulations to ensure that the final Federal regulation will provide the necessary tools to state and local governments for effectively reducing motorcycle noise impact. The Agency established noise emission standards for newly manufactured motorcycles and exhaust systems which it considered requisite to protect the public health and welfare. These standards were set after the Agency conducted comprehensive studies taking into account the magnitude and conditions of motorcycle use, the degree of noise reduction achievable through the application of the best available technology, and the cost of compliance.

Under section 6 (e)(2) of the Act, State and local governments are not preempted by Federal regulations from establishing and enforcing controls on environmental noise through the licensing, regulation, or restriction of the use, operation, or movement of any product or combination of products. The labeling provisions of this regulation were also established by the Agency in part to assist State and local govenments.

EPA strongly encourages state and local governments to adopt and enforce laws and ordinances which complement and support the Federal motorcycle noise standards.

9.2 AIR AND NOISE EMISSION COORDINATION

Issue: Are EPA's noise emission regulations coordinated with its air emission regulations?

Comments:

Manufacturers' Comments

Harley-Davidson charges that the noise regulations are an uncoordinated addition to the air emission regulations which were imposed January in 1978.

Harley-Davidson also suggests that the noise labels be combined with the exhaust emission labels and read:

> "This vehicle conforms to USEPA exhaust and noise emission regulations applicable to ____ model year motorcycles."

Kawasaki suggests that EPA give some thought to the placement of labels on street models since the 'best' label locations are already filled by other EPA and NHTSA labels.

Aftermarket Manufacturers' Comments

Alphabets Custom West believes that with the adjustments to mufflers necessary just to meet the smog standards, the mufflers will become quiet.

Kendrick Engineering reported that technical problems exist with air emission requirements, and they will be further compounded by the noise emission regulations.

Response:

The impact of EPA air emission regulations for motorcycles was considered by the Agency during the development of the motorcycle noise emission standards. During this review, the Agency found no evidence of conflict between the two standards and foresees no technical problems with newly manufactured motorcycles meeting both the requirements for reduced exhaust and noise emissions.

For those manufacturers that prefer combining the air and noise emission labels on motorcycles, paragraph 205.158(d) of the final regulation allows manufacturers to combine motorcycle labeling requirements with other governmental labeling requirements in one or more labels. To make this combination of labels possible, the effective date of the motorcycle regulation has been changed to be based on the model year rather than the calender year to be compatible with the air emission regulations.

9.3 FOLLOW-UP OF REGULATIONS

Issue: Will the regulation be reevaluated in the future to determine the actual impact on motorcycle noise problems?

Comments:

Manufacturers' Comments

Suzuki, Honda, and Yamaha want EPA to reevaluate the noise problem sometime in the future, at which time lower standards can be set if they are deemed feasible and necessary. Honda stated that noise control technology should be evaluated and the 78 dB standard held until a study similar to the heavy duty vehicle regulation is completed.

State and Local Government Comments

The California Highway Patrol recommends that EPA conduct a survey of states with and without noise regulation now and in the future to determine the effectiveness of noise standards and whether they should be lowered.

Trade Association Comments

BPICM recommends that EPA undertake a review of overall noise in 1988 and determine the contribution of controlled motorcycles to those noise levels.

ANCMA states that motorcycle noise reduction will be justified in the future when other vehicles are quieted.

Motorcycle Interest Group Comments

The Pennsylvania Trail Riders' Association, Motorcycle Product News, and AMA Great Plains District 33 all contend that EPA should reevaluate the impact of the noise standards, their effectiveness, their costs, and the available technology in the future before setting lower standards.

Response:

EPA plans to review the effectiveness and need for continuation of the provisions of the regulations five years after the effective date of the final step standard. The Agency will assess the actual costs incurred and other burdens associated with compliance and will review noise data to evaluate the effectiveness of the regulation.

9.4 EFFECTIVE DATE

Issue: Should the effective date be related to model year?

Comments:

Manufacturers' Comments

Harley-Davidson, Honda, Kawasaki, and Suzuki contend that the standards should become effective on a model year basis. A model year's effective date would be consistent with product changes. The model year is well established in the minds of manufacturers, distributors, dealers, consumers, and the various government personnel who will enforce the regulation.

Honda further pointed out that a January 1 starting date would require compliance with the regulations one model year earlier, thereby cutting lead time. Harley-Davidson, Suzuki, and Kawasaki also expressed concern over the lead time lost if a calendar year basis was adopted.

Yamaha reported that it was amenable to the calendar year designation. However, Yamaha stated that "if EPA utilizes model year for its control scheme, the effective and control dates must be modified to conform to production and marketing schemes as utilized by the industry."

Kawasaki also commented that the model year is the basis for EPA's exhaust emission regulations.

Response:

The Agency has specified the effective dates of the regulation in terms of model year. Although the proposed rule provided effective dates that were based on the calendar year, the Agency felt that the model year designation in the final rule would cause minimum industry disruption by allowing motorcycle manufacturers to conform to traditional marketing schemes and production processes. With effective dates based on model year, manufacturers will also be able to coordinate compliance of noise emission standards with EPA air emission standards, whose compliance demonstration requirements are based on model year.

Model year will mean the manufacturer's annual production period (as determined by the Administrator) which includes January first of such calendar year. If the manufacturer has no annual production period, the term "model year" shall mean the calendar year.

9.5 SAFETY HAZARDS

Issue: Will lower noise levels present safety hazards?

Comments:

Aftermarket Manufacturers' Comments

Kendrick Engineering, and Action Exhaust Systems warned that motorcycles must have a certain decibel level so that other drivers are aware of their presence. Such a level gives the motorcyclists a slight "noise visibility."

Trade Association Comments

MIC warned that forcing technology which may drastically affect the performance capability and durability of the motorcycle in traffic may create safety hazards.

Dealer/Distributor Comments

Harley-Davidson of Valdosta, Wisconsin Motorcycle Dealers' Association, the Blackwater Van and Cycle Supply, and Godfrey Custer, a motorcycle dealer, all eluded to the problem of "noise visibility."

Mr. Custer also commented that the noise of off-road motorcycles acts as a warning to wildlife.

Motorcycle Interest Group Comments

Road Rider Magazine wondered how, with all the current effort to make motorcycles more conspicuous to other drivers, EPA could propose regulations which will make motorcycles less audibly noticeable.

The AMA Great Plains District 33, Motorcycle Product News, and the AMA Florida District A all stated that motorcycle noise serves to warn other vehicles of their presence.

Response:

The Agency has not found any evidence that the noise levels proposed by EPA for new motorcycles have any relationship to driver safety. The noise level of a motorcycle would have to be substantially louder than most current models to be heard by an automobile or truck driver, even in light traffic situations. Motorcyclists who are depending on the noise generated from their machines to provide a necessary warning to other road users are gambling with their own safety.

The expected performance losses for street motorcycles due to quieting technology are very small and should not be so severe as to create safety hazards.

Off-road motorcyclists should not rely on noise to warn wildlife. Nevertheless, even at the regulated levels, the off-road motorcycle is more than sufficiently noisy to provide an advance warning to wildlife.

9.6 REGULATION OF ALL AFTERMARKET MUFFLERS

Issue: Should aftermarket exhaust systems for pre-1983 Model Year motorcycles be regulated?

Comments:

The California Office of Noise Control commented that EPA should extend its regulation to all aftermarket exhaust systems and not just those that would be applicable to post-1983 motorcycles.

Response:

EPA believes that regulating newly manufactured exhaust systems designed for motorcycles manufactured prior to the effective date of this regulation is not feasible. The Agency has insufficient data on the noise levels of pre-regulation motorcycles and believes that obtaining such data would be difficult or impossible. Since older motorcycles have varying noise levels for different models and years of production, it would be extremely difficult and costly for the Agency to set varying noise standards for the respective replacement exhaust systems. In any case, the sale of pre-1983 replacement exhaust systems will eventually fall to insignificant numbers as pre-1983 motorcycles are retired from operation.

To assist State and local enforcement authorities, the regulation requires all replacement exhaust systems designed for motorcycles manufactured prior to 1983 be labeled as such. Use of these exhaust systems on motorcycles subject to EPA noise regulations constitutes tampering and is a violation of Federal law, unless it can be shown that the exhaust systems do not cause the motorcycle to exceed the noise emission standards.

9.7 EPA BIASED AGAINST MOTORCYCLES

Issue: Is EPA biased against motorcycles?

Comments:

ABATE of Michigan, Tumblewood MC Club of Brockton, Inc., Motorcycle Product News, Freedom Rider MC, ABATE of Indiana, ABATE of California, and Twin Shores Motorcycle Club all contend that EPA is biased against motorcycles and wants to remove them from the streets.

The Motorcycle Trade Association charges Charles L. Elkins, Deputy Administrator for noise control programs, "with bias and prejudice against the motorcycle industry by: Using 'carnival tricks' as evidenced by the tape recordings played at the March 15th EPA press conference; aiding and abetting inflamatory articles against motorcycles in the public press, as evidenced by Illinois and Florida newspaper articles promoted by EPA Field Representatives; publishing erroneous, misleading, and false information at the taxpayers' expense as evidenced by EPA's booklet entitled, Noise on Wheels; and, unjustifiably holding a public hearing in an area which the Agency knew would be overwhelmingly in favor of its proposals, but not representative of the public, as evidenced by EPA's 'retirement home' hearing in St. Petersburg, Florida."

Also expressing concern over biased EPA press releases were: the American Motorcycle Association, the Harrisburg Motorcycle Club, Inc., Road Rider Magazine, the Motorcycle Doctors' Association, U.S. Norton Owners' Association, Freedom Rider M.C., ABATE of Indiana, Jennings County MC, Modified Motorcycle Association, ABATE of Georgia, ABATE of Maryland, Wholesale Supply, Kawasaki Midwest, West Valley Cycle Supply, Kelly Brothers Cycle Parts, Kelly Cycle Shop, Blackwater Van and Cycle Supply, and Doty's Motorcycle World, Inc.

Response:

EPA is not biased against motorcycles. As mandated by Congress, EPA has determined that motorcycles are a major source of noise and has proceeded to regulate them.

In regard to the misleading and unfortunate press releases, there are two points EPA wishes to clarify. First, the newspaper article author took considerable editorial license with not-for-the-record remarks. Second, EPA noise office representatives, in the public hearings held on these proposed regulations stated for the formal record that, in (our) opinion, the article's reference to the "Hell's Angels" was inappropriate and did not reflect EPA's views. To the extent that the Agency may have contributed to an unfavorable motorcyclist image characterization, we apologize.

In February 1977, the EPA published a pamphlet entitled, Noise on Wheels. This publication, which discusses all suface transportation noise sources, contains some patently incorrect information on motorcycle noise levels. Noise on Wheels was not properly reviewed within EPA prior to its publication and was immediately withdrawn once the inaccuracies were discovered.

When determining where public hearings are held, EPA must weigh many factors not least among them politics. St. Petersburg, Florida is not a 'retirement home' in the opinion of EPA. The site was selected because it represented an area with high public awareness and concern for motorcycle noise. To balance this site, the Agency held its second hearing in Anaheim, California, an area with a large motorcycle-owning public.

The Agency contends that, by holding public hearings in these two sites and in the Nation's capitol, along with a 90 day open docket for public response, that it has provided the opportunity for representative public responses.

9.8 COMPETITION MOTORCYCLES

Issue: Should competition motorcycles be regulated?

Comments:

Manufacturers' Comments

Harley-Davidson recommended a provision to the regulations to allow the temporary installation of competition exhaust systems on standard motorcycles during the time they are actually being used in an approved competition event.

State and Local Government Comments

The Illinois EPA stated that noise level limits are needed for competition motorcycles. This would benefit residential areas impacted by race track noise. The California Highway Patrol also pointed out that competition motorcycle noise control is necessary as these motorcycles are a problem.

The Oregon Department of Environmental Quality stated that regulation of off-road motorcycles will be a necessity if significant control of off-road use can be gained since off-road motorcycles are classified as competition motorcycles in Oregon.

Motorcycle Interest Group Comments

The Pennsylvania Trail Riders' Association pointed out that "competition machines used for closed-course events should be required to meet the AMA noise level standard. At present many do not meet these standards as they are sold and used. A major off-road noise source is from competition bikes used for recreational riding. In addition manufacturers should be required to provide, with each new competition bike sold, a silencing kit and instructions on how to make the machine conform to the competition machines being used in a non-competitive configuration."

Trade Association Comments

MIC would like to see the competition replacement exhaust system labeling reworded to allow installation on certified street or off-road motorcycles that will be used in closed course competition events. As the regulation now reads, competition exhaust systems may only be used on competition motorcycles.

Response:

EPA carefully considered issuing Federal noise emission standards for competition motorcycles. Acceleration noise levels of competition motorcycles are often 100 decibels or more. Since several types of competition motorcycles are well suited for off-road operation, the use of such extremely loud vehicles in desert and trail environments is considered to be a serious and widespread problem. In addition, the noise generated from racetracks where motorcycle competitions are held has in a number of cases become a source of considerable public annoyance in surrounding residential areas. Although Federal noise regulations for competition vehicles are one approach to the problem, other solutions such as boundary line noise ordnances or time limit restrictions are available to local authorities.

EPA has concluded that Federal noise standards for motorcycles intended solely for use in closed course competition events, are not the most effective way to deal either with the racetrack or the improper use problems associated with such competition motorcycles. Since racing motorcycles are disassembled between races, vigorous state and local action would still be necessary in any jurisdiction with a competition motorcycle noise problem, even if Federal noise standards were established. In support of state and local efforts, these regulations require that all such motorcycles be clearly labeled as such and they limit the use of such motorcycles to closed-course events only.

The regulations do not prohibit modification of off-road and street motorcycles for competition events provided the usage is restricted to closed-course events. Use outside of the closed course without returning the off-road or street motorcycle to its original configuration would be a violation of Federal law.

9.9 SPARK ARRESTORS

Issue: Should spark arrestors sold separately from the exhaust system be regulated?

Comments:

The MIC stated that spark arrestors sold separately should not be subject to certification since their function is not noise related and is therefore outside the authority of EPA.

The MCM Manufacturing Company stated that spark arrestors are sold strictly as adapters to mufflers and should not have to meet the same certification requirements as mufflers.

Response:

EPA considers spark arrestors as a component of a total exhaust system. Although spark arrestors may be sold separately from other components of an exhaust system, the regulations require them to be designed and built so that when installed as a component of an exhaust system, that exhaust system does not cause Federally regulated motorcycles to exceed applicable noise emission standards for a specified Acoustical Assurance Period (AAP). In addition, the regulations include provisions that require spark arrestor manufacturers to label their product certifying that when installed with other legal components, it meets EPA noise emission standards for specific motorcycles.

9.10 DEFINITION OF WILDERNESS

Issue: Is the meaning of wilderness improperly used by EPA in its supplementary information, the EIS, and the Regulatory Analysis?

Comments:

Motorcycle Product News pointed out that "wilderness has an exact and important definition, in that all motor vehicles are excluded from designated wilderness (areas) regardless of sound level. To claim that regulation is required because of motorcycle operation in wilderness (areas) is to make a gross misrepresentation of the facts."

Response:

The term 'wilderness' is used in a general way by EPA to define a wooded or pristine environment where any man-made motorized sound is unwanted. EPA agrees that all motor vehicles are prohibited from operating in a "designated wilderness" area as defined in the Wilderness Act of 1964. The Wilderness Act defines such an area as one that is untraveled by man and where man is a visitor and does not stay.

Most State and local officials agree that incompatible land use is the main problem of off-road motorcycle noise and that reducing noise emission levels will only alleviate, not solve the problem.

9.11 REGULATORY ANALYSIS OUTDATED

Issue: Is the data used in the Regulatory Analysis of the Noise Emission Regulations for Motorcycles and Motorcycle Exhaust Systems the best that is currently available?

Comments:

Aftermarket Comments

Kendrick Engineering commented that the background document is "somewhat dated." It does not really include the technical achievements of the last three years.

Trade Association Comments

The Motorcycle Trade Association charged that the background document is filled with "estimates from estimates, contradictions, and guesses."

Motorcycle Product News stated that the background document was dated and did not adequately reflect the real world. A more current American public attitude study was requested. Motorcycle Product News also questioned the absence of a report entitled "Study of Street Noise Contribution in Southern California," released January 1978, from the background document.

Private Citizen Comments

Mr. Robert Steeves commented that the data base utilized to justify the needs for regulating motorcycle noise is outdated and that improvements in motorcycle noise emissions have been such as to drop beneath the nuisance threshold of the majority of the public.

"While describing the impact of current motorcycle noise regulations, the proposed regulations cite some very impressive sounding numbers. For example, studies indicate nearly two million motorcycle noise events causing interference to persons outdoors occur daily in the United States. In addition, there are almost 500,000 daily speech impacts of persons indoors, and many thousands of sleep interferences and awakenings caused by motorcycles. Upon study of the assumptions made in developing these numbers, it seems that a large number of judgmental parameters have been used and no explanations of the sensitivity of these paramenters are given. Many studies done for and by the Federal government are full of judgmental decisions that have large impacts on outcomes. Rarely are these examined to develop a range of uncertainty for the particular results obtained. These results are then, even if accompanied by disclosures from the author, taken as gospel by someone looking for data. It is easy to see how this process of ignoring uncertainties can soon mushroom from study to study and produce study results without proper foundations." Mr. John S. Viggers would like to know if this data collection problem has been resolved in this study.

Response:

One of EPA's best sources of information for the background document is the motorcycle industry itself. To keep the Regulatory Analysis accurate and updated, the industry has been strongly encouraged throughout the rule-making process to keep the Agency informed of any substantive changes. The comments received during the public comment period after the proposed rule was issued have helped the Agency to reevaluate and update data in the Regulatory Analysis.

In addition the health and welfare analysis has been improved since the proposed rule and EPA believes that its current model is the most accurate model available for estimating the impact of motorcycle noise.

9.12 EPA's AUTHORITY

Issue: Does EPA have the authority to regulate motorcycles?

Comments:

Aftermarket Comments

Cycle Sport Unlimited commented that EPA may have overstepped its mandate because motorcycles are not a "major source of noise."

Motorcycle Interest Group Comments

ABATE of Maryland contends that the states are responsible for noise laws and not the Federal government. ABATE of Illinois further believes that EPA does not have the authority to regulate for annoyance.

Regarding the 78 dB level, the BMW Motorcycle Owners of America view the standards as "arbitrary, capricious, and beyond the scope of authority delegated to EPA under the Noise Control Act."

Response:

In the Noise Control Act of 1972 (P.L. 92-574) the Congress directed EPA to establish noise emission standards for newly manufactured products which have been identified as major sources of noise. Under the authority of Section 5(b)(1) of the Act motorcycles and motorcycle exhaust systems were identified as major sources of noise on May 28, 1975 (Federal Register, Vol. 40, No. 103).

In establishing these standards full consideration was given to such factors as public health and welfare, magnitude of the problem, conditions of use of the product alone and in combination with other noise sources, degree of noise reduction available through use of best available technology, and the cost of compliance.

Although the Federal regulations preempt State and local noise emission standards, these governments do retain the right "to establish and enforce controls on environmental noise (or one or more sources thereof) through the licensing, regulation, or restriction of the use, operation, or movement of any product or combination of products."

9.13 DEFINITION OF MODIFIED MOTORCYCLE

Issue: Do the definitions of a modified motorcycle and a tampered motorcycle need clarification?

Comments:

AESMC and Motorcycle Product News both expressed concern that EPA's discussion of modified motorcycles and accessories was ambiguous. The term 'modified' should be clarified as modified parts or motorcycles that can still comply with the law. Tampered products should be defined as those products which cause the motorcycle or part to exceed EPA's noise emission regulations.

Response:

EPA has used the term "modified" in its supporting documentation to describe those motorcycles that have been altered from their original configuration to increase the noise levels emitted by those vehicles. The Agency did not consider motorcycles to be "modified" when motorcyclists replaced mirrors, horns, seats, or made any other non-noise related changes.

Noise producing "modifications" before the final rule was issued generally consisted of replacing original equipment exhaust systems with exhaust systems and exhaust system components that increase the motorcycle's performance and noise emissions. Motorcycle exhaust systems have been "modified" by removal of the muffler's baffles, destruction of the noise attenuating characteristics of the system or complete removal of the exhaust system or some of its components.

Regulated motorcycles are "modified" in the sense that the changes described above are made to cause such vehicles to exceed the Federal noise emission standards. Those motorcycles have also been "tampered with" in the sense that such modifications are prohibited by the regulation. By definition "tampering" would not occur to pre-regulated motorcycles without applicable noise emission standards regardless of the extent of exhaust or other noise related modifications.

9.14. FEDERAL MOTORCYCLE NOISE STANDARDS UNNECESSARY

Issue: Are Federal motorcycle noise standards necessary?

Comments:

Dealers/Distributors' Comments

Drag Specialties commented that EPA should stay out of the motorcycle business entirely, while Spokane Suzuki, West Valley Cycle Supply, Lewiston Cycle and Marine, Inc., Ace Cycle Shop, Popoli's Honda, Rich Budelier Company, Cleary Motorcycle Co., Inc., Maryland Motorcycle Dealers' Association, Boston Cycles, and Idaho Motorcycle Dealers' Association all are on record as opposing the regulation. TRI-ONDA views the regulation as unnecessary.

Kawasaki Midwest, Kelly Brothers Cycle Parts, Kelly Cycle Shop, Texas Motorcycle Dealers' Association, Ace Cycle Shop, and Blackwater Van and Cycle Supply contend that the regulations will have no or little effect.

Trade Association Comments

The Motorcycle Trade Association commented that the overwhelming majority of the public testimony from non-motorcycle users and consumer environmentalists clearly indicates that the noise levels from current street motorcycles are not objectionable.

Motorcycle Interest Group Comments

EPA has not convinced the BMW Motorcycle Owners' Association that there is a real need for motorcycle noise emission standards since the industry has a history of self-policing with regard to noise, and local ordnances if properly enforced will adequately address any noise problem.

MRVC and Cross Island MC both commented that the industry is already voluntarily working towards quiet motorcycles.

Response:

Due to a growing concern over the effects of noise on the public health and welfare, Congress enacted the Noise Control Act of 1972. In response to Congress' directive, EPA identified major sources of noise in the environment, in which motorcycles were included. The identification of motorcycles as a major noise source was based on the total impact of current motorcycle operations. EPA is authorized by the Noise Control Act to establish regulations for motorcycle and motorcycle exhaust systems in an effort to significantly reduce the noise impact of these vehicles.

Motorcycles comprise a small percentage of the total traffic stream, but when compared to other transportation sources, motorcycles are a significant contributor of noise, especially in residential areas, where heavy vehicles are not present. In an EPA survey where respondents did not live near freeways or airports, motorcycles were ranked the number one noise source by 11.7% of urban populations highly annoyed. Public annoyance is the basis of many noise abatement programs and has been the motivator of legislative action throughout the country. EPA has carefully evaluated in its health and welfare analysis various forms of noise effects. As a result of these studies the Agency believes that by establishing noise emission standards for newly manufactured motorcycles and by implementing the anti-tampering, labeling, and enforcement provisions of the regulation, the impact of motorcycle noise on the public health and welfare will be significantly reduced.

9.15 BONNEVILLE SPEED TRIALS

Issue: Can the Bonneville, Utah speed trial event be exempted from the regulation?

Comments:

Motorcycle Interest Group Comments

The AMA and its Great Plains District 33 both requested the exemption of the Bonneville event from the regulation. The speed trials provide an arena for research and testing where the objective is to set land speed records. Motorcycles involved are "home-built" or modified for this very unique purpose. Also, the area will not be inhabited in the foreseeable future and does not pose any adverse environmental effects.

Response:

Motorcycles will not be required to meet Federal noise emission standards while competing in speed trials at the Bonneville Salt Flats. These motorcycles, which are "homebuilt" or were stock models that have since been extensively modified, satisfy EPA's definition of competition motorcycles used in a "closed course competition event." The Bonneville Speed Trials is an organized event consisting of motorcycle competition on two types of racing tracks. One track is circular for endurance races and the other is a straight-away track for setting land speed records. Both tracks can be considered "an enclosed, repeated, or confined route intended for easy viewing of the entire route by spectators." If motorcycles competing in this event were not exempt from these regulations, the effects of quieting them could not be differentiated from the higher noise levels emitted by automobiles also competing at the Salt Flats.

The Agency understands that other types of desert races have also occurred in the Bonneville Salt Flats area. Motorcycles participating in these events would be required to comply with the noise emission standards specified in the final regulation unless the Agency could be given information to show that the races fit EPA's definition of a "closed course competition event."

9.16 PATH NOISE CONTROL

Issue: Should EPA also consider path noise control for urban transportation noise?

Comments:

Manufacturers' Comments

Suzuki commented that since EPA is the lead agency charged with coordinating the U.S. noise control program, it should also consider path noise control. Suzuki presented the following table indicating the potential of such an approach.

URBAN TRANSPORTATION NOISE PATH
CONTROL NOISE LEVEL IN dB(A)

Location	Baseline	30m Vegetative Screen	Roadway Depressed 3m	2m Barrier	4m Barrier
Roadside	86	86	86	86	86
30m	76	71	71	64	61
60m	72	67	65	60	57
90m	69	64	62	57	54

Response:

EPA has assisted States and localities in noise control. One control technique which is available at the local level is the construction of barriers. Funds are also available for this purpose from the Highway Trust Fund. Barriers are, however, expensive and therefore tend to be worth while only where there is high exposure to people from heavy traffic volume. Obviously such controls can only protect a small number of people. This is particularly true in the case of motorcycles where impacts occur on all kinds of roadways and traffic densitites. As a result noise emission standards and State and local actions to control modifications are also required.

9.17 OTHER VEHICLES SHOULD BE QUIETED

Issue: Why did EPA single out motorcycles for regulation when other products are noisier?

Comments:

Manufacturers' Comments

Harley-Davidson questioned the assumption that motorcycles are the loudest noise generator in residential areas where trucks do not normally operate. Harley-Davidson points out that garbage and sanitation trucks are noisy in residential areas.

Dealer/Distributor Comments

Florida Cycle Supply commented that the true motorcycle noise source is the two-stroke motorcycle, which will soon be phased out. Four stroke engines are quiet and should not be regulated.

Motorcycle Interest Group Comments

Road Rider Magazine does not support the assumption that new motorcycles are a major source of noise. Old motorcycles should receive EPA's attention.

ABATE of Michigan, Tumblewood MC Club of Brockton, Inc., Freedom Rider MC, ABATE of California, Twin Shores MC, Cross Island MC, and Central Florida BMW Motorcycle Owners all stated that EPA should quiet other vehicles.

Response:

The motorcycle noise emission regulation is only one in a series of regulatory actions taken by the Agency to control the nation's noise problem. To date the Agency has issued final noise regulations for medium and heavy trucks, truck mounted solid waste compactors, and portable air compressors. In addition, regulations have been proposed for buses and wheel and crawler tractors.

The Agency also plans further regulatory action on other noise sources. These include pavement breakers and rock drills, power lawn mowers, and truck-transport refrigeration units.

9.18 ENERGY EFFICIENCY

Issue: Will the regulations affect the energy efficiency of motorcycles?

Comments:

Motorcycle Interest Group Comments

Tumbleweed MC Club of Brockton, Inc., ABATE of Illinois, ABATE of Indiana, Gulf Coast Sandblasters, Inc., AMA Great Plains District 33, ABATE of California, Twin Shores MC, League of Women Motorcyclists, and Central Florida BMW Motorcycle Owners all expressed concern over the decreased fuel economy that will result from the noise regulations.

Response:

The impact on energy efficiency is expected to be small. Specifically, additional weight and increased backpressure due to noise suppression components are expected to negatively impact motorcycle fuel economy by an estimated 2 percent. The average fuel consumption of current street motorcycles is 47 mpg. Off-road motorcycles are estimated currently to have an average fuel consumption of 60 mpg. Based on 2300 miles per year for street motorcycles and 1200 miles per year for off-road motorcycles, an increased fuel consumption of about one gallon per year for street motorcycles and less than one gallon per year for off-road motorcycles is expected. By the year 2000 when the majority of motorcycles in-use will have been manufactured to comply with the 80 dB standard, the current population of motorcycles is projected to have more than doubled to approximately 16 million vehicles. The fuel penalty translates to about 15 million gallons of gasoline in the year 2000, or one-half million barrels of crude oil which would represent less than one tenth of one percent of the total U.S. consumption of crude oil at that time.

9.19 EPA REGION V OFFICIALS

Issue: The actions of EPA's regional officials raised concern.

Comments:

Motorcycle Interest Group Comments

The American Motorcycle Association and the Harrisburg MC, Inc., charged that EPA Region V officials were encouraging state and local officials to set standards predating EPA's national standards by several years that are in direct conflict with the proposed standards.

Response:

EPA regrets any misinterpretation of statements made by Region V officials. The Agency's policies are set at the Administrator's level.

9.20 OBTAINING OBSOLETE REPLACEMENT PARTS

Issue: Has EPA ignored the problem of obtaining replacement parts for motorcycles whose manufacturer no longer serves the U.S. market?

Comments:

Road Rider Magazine contends that if EPA's regulation causes a reduction in motorcycle brands, present owners of such motorcycles would have to resort to aftermarket supplies or face elimination of replacement parts.

Response:

As with most products in the U.S. market, motorcycle replacement parts will exist if consumer demand is sufficient.

The Agency does not expect there to be any major decrease in the range of available motorcycle types or accessories. If any manufacturers do decide to leave the U.S. market, they will most likely be the firms which currently have limited U.S. sales and already limited parts availability.

9.21 TAMPER-PROOF MUFFLERS

Issue: Would sealing mufflers reduce the incidence of tampering?

Comments:

Motorcycle Interest Group Comments

The Pennsylvania Trail Riders' Association suggested that original equipment and aftermarket exhaust systems be sealed units with no removable baffles or required fiberous packing.

Public Interest Group Comments

The Seminole Lake Country Club Estates representative suggested that a tamper-proof seal be installed on the mufflers at time of inspection to aid in enforcement and decrease tampering.

Dealer/Distributor Comments

TRI-ONDA suggested that if it were made mandatory that customers could not change the muffler systems after they had purchased a new or used motorcycle, then "all concerned would benefit."

Response:

EPA does not believe it has authority to establish design standards such as requiring exhaust system manufacturers to seal their mufflers. However, the Agency is aware that some motorcyclists operate their vehicles with the fiberous packing or the entire baffle removed from the exhaust system. The latter is an especially serious problem since removing the entire baffle can result in noise levels as high or higher than removal of the entire muffler.

The Agency plans to deal with the problem of easily removable components in exhaust systems, such as baffles, by issuing a Notice of Proposed Rulemaking (NPRM) to amend the final regulation. These amendments will require manufacturers to conduct the testing required to demonstrate compliance to noise standards with all easily removable components of the exhaust system removed. The Agency believes that this requirement will encourage manufacturers to design exhaust systems which will reduce the incidence of tampering by consumers, or which will comply with applicable standards when easily removable components are removed. The Agency encourages and solicits public comments on all aspects of the proposed amendments and will fully analyze the comments prior to publishing the amendments in final form.

9.22 CONCISENESS OF REGULATIONS

Issue: Can the regulation be rewritten in a clearer and and more concise manner?

Comments:

Manufacturers' Comments

Harley-Davidson charges that the regulations are "intentionally vague and loosely defined." Harley-Davidson warns that such vague regulations are more costly to comply with than well defined rules.

Harley-Davidson commented that line 205.160-2(g) on page 10848 is unclear; the paragraph headings, in general, are unclear; and such definitions as configuration, are not well defined. Further, the concepts of class and category are confusing.

Suzuki commented that the regulations need to be significantly redrafted to comply with Executive Order 12044. As they are now, the complexity and length result in confusion, duplication, frustration, and added cost.

State and Local Government Comments

The California Highway Patrol also presented suggestions for redefining off-road and competition motorcycles.

The California Highway Patrol would also like to know if label verification reports, as required under Sections 205.155-4(a)(3) and (4) will be available for enforcement purposes.

Trade Association Comments

The Motorcycle Trade Association charged that the labeling regulations were a "classic example of overly complicated, unnecessary, and unworkable regulations."

The MIC had more specific comments on the conciseness of the regulations and the language of the enforcement provisions.

BPICM contends that the 90-day comment period was too short and did not allow for a thorough and accurate analysis. BPICM also contends that the methodologies used by EPA makes it difficult to draw comparisons with the International Standard Organization test method or the test method incorporated in UN/ECE Regulation 9.

Motorcycle Interest Group Comments

Below is the AMA's classification of all types of motorcycle events, based on EPA definitions. The AMA suggests that this list be accepted by EPA with reference to current AMA Competition Rule Books for clarification and description.

Closed Course	Non-Closed Course
Road Race	Enduro
Dirt Track	Off-Road Reliability Run
Short Track	Observed Trials
Speedway	Scottish Trials
Hillclimb	Point-to-Point Race
Scrambles	Hare and Hound
Motocross	
Hare Scrambles	
Ice Race	
Drag Race	
Closed Course Enduro	

The AMA Great Plains District 33 suggested that EPA clarify its definition of a closed course.

The Pennsylvania Trail Riders' Association would like to see clearer definitions of off-road and street motorcycles.

Private Citizen Comments

Mr. David Wallis submitted comments and information on how to rewrite and clarify the regulations.

Response:

EPA considered the above comments and has rewritten the regulations for greater clarity.

The Agency clarified the definition of "closed-course competition event" to reflect the original intent of the proposed definition. The revised definition requires that such an event cover an "enclosed, repeated or confined route that is intended for easy viewing of the entire route by all spectators". The Agency determined that the following competition events meet that definition:

Short Track
Dirt Track
Drag Race
Speedway
Hillclimb
Ice Race
Bonneville Speed Trials

9.23 NOISE CONTROL ACT SECTION 6

Issue: Will the wording of the regulation impede judicial review?

Comments:

Manufacturers' Comments

Harley-Davidson charged that by stating the regulations in their entirety were "actions of the Administrator" with respect to Section 6 of the Noise Control Act, was an attempt to take advantage of the preclusive judicial review provisions of Section 16. Thus, any rules or regulations would only be subject to review by the Court of Appeals, District of Columbia Circuit, and not subject to review in any subsequent civil or criminal enforcement proceedings.

Response:

Basically, what Harley-Davidson is commenting on was answered by the Court of Appeals (D.C. Circuit), in Chrysler Corporation, et al v. EPA (600 F. 2d 904 (D.C. Cir. 1979)). The case concerned the EPA medium and heavy truck regulation, which was promulgated under the same authority as the motorcycle regulation. As pointed out by Harley-Davidson the issue decided was primarily a jurisdictional question. EPA argued that review of its enforcement provisions was permitted only by the Court of Appeals, District of Columbia Circuit. However, the Court found that the Act does not allow for review of the enforcement provisions by the Court of Appeals. Specifically, the Court found that it had jurisdiction to review only those portions of the regulation based upon the authority of §6 of the Act, and that many of the enforcement provisions were not based upon §6 authority. Therefore, for the medium and heavy truck regulation, as well as the motorcycle regulations, review of enforcement provisions will first be conducted by the Federal district courts.

9.24 MEASUREMENTS TO NEAREST TENTH OF A dB

Issue: Harley-Davidson stated that all readings, calculations and label noise level values should be rounded to the nearest tenth of a dB.

Response:

The regulation does not specify any requirement for rounding measurements to the tenth of a decibel. However, reporting to EPA in tenth decibels will be sufficiently accurate for EPA's requirements.

9.25 COLOR CODING

Issue: Harley-Davidson does not favor the color coding of parts, as it hurts design and encourages repainting by consumers.

Response:

The Agency will not require color coding of motorcycle parts.

9.26 FUTURE COMPLIANCE COSTS

Issue: The MIC contends that EPA failed to consider the economic and technological burdens on manufacturers in order to comply with future Federal noise and exhaust emission regulations.

Response:

The Agency did consider future compliance costs and technical burdens for meeting air and noise emission regulations in its economic and technology sections of the Regulatory Analysis of the Noise Emission Regulations for Motorcycles and Motorcycle Exhaust Systems.

10 PRIVATE CITIZEN COMMENTS/STATE AND LOCAL QUESTIONNAIRE

10.1 Private Citizens Comments

EPA received comments about the motorcycle regulation from over 1,800 private citizens during the public comment period. The substantive comments from these citizens were addressed along with the comments from manufacturers and other interested groups in the preceding nine sections of this document. However, the majority of the comments from private citizens were general in nature and the Agency categorized those comments in Table 10-1 as citizens: (1) supporting the regulation (2) opposing the regulation or (3) not indicating support or opposition to the regulation. Tables 10-2, 10-3, and 10-4 provide an analysis of the comments for each of the three citizen categories.

Table 10.1 DISTRIBUTION OF COMMENTS FROM PRIVATE CITIZENS

	No. of Commenters	Percent
Support the Regulation	689	37
Opposes the Regulation	1124	61
No Indication of Support or Opposition	42	2
Total	1855	100

Table 10.2. COMMENTS FROM PRIVATE CITIZENS IN SUPPORT OF REGULATION*

	No. of Commenters	Percent
Support Regulation in General	254	37
Mufflers are a problem	104	15
Regulation should be effective soon	85	12
Support tampering or muffler rules	76	11
Noise levels should be lower than those proposed	32	5
Federal Standard not as stringent as State Standards	8	1
Proposed Standards inadequate to protect health and welfare	5	1
New motorcycles need to be quieted further	4	1
Concern over operator behavior	164	24
Concern over enforcement	146	21
Concern over off-road motorcycle noise	67	10
Concern over juveniles	45	7
Need land use and/or time restrictions	35	5
Need to regulate other products	26	4
Concern over minicycles/mini-bikes	10	2
Concern over two-stroke engine noise	5	1
Concern over raceway noise	4	1
Need to regulate competition motorcycles	1	.1
Motorcyclists who support proposed noise limits	17	2
Motorcyclists who support muffler/ tampering rule	8	1

*689 citizens indicated support of the regulation. Some citizens made more than one comment.

Table 10.3

COMMENTS FROM PRIVATE CITIZENS IN OPPOSITION TO REGULATION*

	No. of Commenters	Percent
Cost too much/inflation/trade balance/general economic impact	665	59
New motorcycles are quiet enough	547	49
Concern for Harley-Davidson/American Products	402	36
Concern for smaller and/or European motorcycles manufacturers	393	35
Impaired performance/increased gasoline consumption/increased weight/styling difficulties/need for liquid cooling/need for multi-cylinder design	324	29
Mufflers/tampering/modification only problem	304	27
Government regulates too much (plus other reasons)	277	25
Freedom of choice (mufflers, styling, number of models to choose from)	231	21
EPA/Federal government biased against motorcycles	211	19
No motorcycle noise problem/minority vehicle	157	14
Regulation will be ineffective due to lack of enforcement	134	12
EPA should address other products (in addition to other reasons)	84	7
Concern for small muffler manufacturers	78	7
Concerned about motorcycle safety	72	6
Federal Government should leave to state and local governments	71	6
Incorrectly believes that EPA is proposing to ban motorcycles or eliminate replacement mufflers	67	6
Elimination of two-stroke engine	28	2
Opposes regulation in general	27	2

(Continued on next page)

*1124 citizens indicated opposition to the regulation. Some citizens made more than one comment.

Table 10.3. (Continued)

COMMENTS FROM PRIVATE CITIZENS IN OPPOSITION TO REGULATION*

	No. of Commenters	Percent
EPA should work on other environmental problems (in addition to other reason)	27	2
Will encourage tampering/modification of motorcycles	19	2
Noise is not a problem (plus other reasons)	17	2
EPA should address other products (only reason)	9	1
Government regulates too much (only reason)	5	.4
EPA should work on other environmental problems (only reason)	4	.3
Noise is not a problem (only reason)	3	.2
Opposes labeling/labeling unworkable	1	.001
Comments about:		
EPA publicity and other activities (article appearing in St. Petersburg, Florida Times/ EPA contractor activity/reference to EPA Publication Noise on Wheels/reference to health effects attributed to motorcyle noise/reference to Hell's Angels/reference to EPA Region V ordinance activity)	254	23

*1124 citizens indicated opposition to the regulation. Some citizens made more than one comment.

Table 10.4

COMMENTS FROM PRIVATE CITIZENS NOT INDICATING SUPPORT OR OPPOSITION*

	No. of Commenters	Percent
Support muffler/tampering rules but opposes quieter new bikes	3	7
Support some noise level limits, but not all	5	12
Recommend other sources to be regulated (only)	3	7
Technical comments (only)	5	12
Concerned about EPA tactics (only)	8	19
Docket correspondence (request for information, intention to write letter or testify, etc.)	11	26
Other (unreadable, etc.)	8	19

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*42 citizens did not indicate support or opposition to the regulation. One citizen made more than one comment.

10.2 STATE AND LOCAL GOVERNMENT QUESTIONNAIRE

The following presents the response to an EPA questionnaire sent to state and local government officials.

Table 10.5

DISTRIBUTION OF COMMENTS FROM STATE AND LOCAL GOVERNMENTS

1. Is motorcycle noise a problem in your jurisdiction?

	No.	Percent
Yes	68	61
No	4	4

2. To what extent can motorcycle noise disturbances be attributed to vehicles that were modified after purchase?

	No.	Percent
Most	35	32
Few	2	2
Not Known	1	1

3. To what extent can motorcycle noise disturbances be attributed to vehicles that are used at a place or time when any motorized noise (no matter how quiet) would be a problem? (most respondents listed primary areas where motorcycle noise is a problem)

	No.	Percent
None	14	13
Nighttime	4	4
Residential	3	3
Hospital Zones	3	3
Public Speaking	2	2
Wilderness	2	2

4a. Is there a need for EPA to require the manufacture of quieter motorcycles?

	No.	Percent
Yes	37	33
No	4	4

Table 10.5 (Continued)

4b. Are the proposed standards, which will reduce street motorcycle sound levels to 75 dB or lower (as measured in actual operation), adequate for controlling noise from new motorcycles in your jurisdiction?

	No.	Percent
Adequate	21	21
Too high	8	7
Too low	5	5
Not necessary	1	1

5. Would the EPA proposal facilitate in-use enforcement of motorcycle noise laws in your jurisdiction?

	No.	Percent
Yes	23	21
No	13	12

6. Do you anticipate increased motorcycle noise enforcement in your jurisdiction in the future, either because of this regulation or for other reasons (check one or more)?

	No.	Percent
Yes	15	14
No	8	7
Don't know	5	5
Have own regs.	4	4

*U.S. GOVERNMENT PRINTING OFFICE: 1981 341-082/210 1-3